The Mexican Garden Pottery

13185 E Colossal Cave

October 2022

THE PLANNING CENTER
a division of TPC Group, Inc.

MEXICAN GARDEN POTTERY REZONING

13185 E COLOSSAL CAVE ROAD
VAIL, AZ 85641

Prepared for:

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October 2022

Table of Contents

TABLE OF EXHIBITS

INTRODUCTION

INTRODUCTION

The Mexican Garden Pottery Rezoning seeks to rezone approximately 1.59 acres of land from RH (Rural Homestead) to CB-2 (General Business) to open a second location for the Mexican Garden Pottery store located at N Oracle Rd and W Laguna St (Miracle Mile and Oracle Road in central Tucson). The new location is proposed within unincorporated Pima County at 13185 E Colossal Cave Rd (APN: 305-13-054D). See *Exhibit 1: Regional Context*. Mexican Garden Pottery's second location is bigger than their first, allowing the owners to sell authentic Mexican furniture and Mexican pottery. If this request is approved, Mexican Garden Pottery will bring new construction to the area and enhance the variety of commercial businesses and retail shopping options available to nearby residents and visitors to the Vail region.

This rezoning request is in an existing commercial corridor where the zoning ranges from CB-2 (General Business) and CI-2 (General Industrial Zone) to RH (Rural Homestead Zone). The properties immediately north and south of the proposed rezoning location are zoned RH. However, they are owned by the Union Pacific Railroad (UPRR) (north) and Circle K (south). The services near the proposed rezoning range from restaurants and gas stations to medical and professional offices. See *Exhibits I.A.2* and *I.A.5*.

This document has been arranged according to the Pima County Rezoning Application Packet for projects requiring a site analysis. It provides a vision for how the boutique-style pottery and furniture store will be developed and how it is an ideal proposal for the property and existing business community.

EXHIBIT 1: Regional Context

I. SITE INVENTORY

A. Land Use

1. Location and Regional Context

The 1.59-acre subject property is located on Colossal Cave Road, approximately ¾ of a mile north of I-10, exit 279 (Colossal Cave Road/Wentworth Road exit), with several existing and planned residential communities located nearby in the hugely popular and rapidly growing Vail area. See *Exhibit 1: Regional Context*. This means the site is highly accessible for both surrounding residents and tourists coming and going via the interstate. It is located at the southwest corner of Colossal Cave Road and rail lines owned by UPRR in an area that offers neighborhood commercial services and retail businesses (see *Exhibit I.A.1: Location Map* and *Exhibit I.A.2: Surrounding Land Uses*). Specifically, it is within Township 16 S, Range 16 E, Section 16 of Pima County, Arizona.

2. On-Site and Surrounding Land Uses

While the subject property is vacant, it has historically been used as a dumping ground by trains traveling along the UPRR. It has also been disturbed by drainage and roadway improvements to Colossal Cave Road and informal roads to access the desert open space to the west behind the property (see *Exhibit I.A.1: Location Map*).

EXHIBIT I.A.1: Location Map

As shown in *Exhibit I.A.2: Surrounding Land Uses*, development in the vicinity is comprised of services typically found along a commercial corridor and generally consists of the following surrounding land uses:

Table I.A.2: Surrounding Land Uses

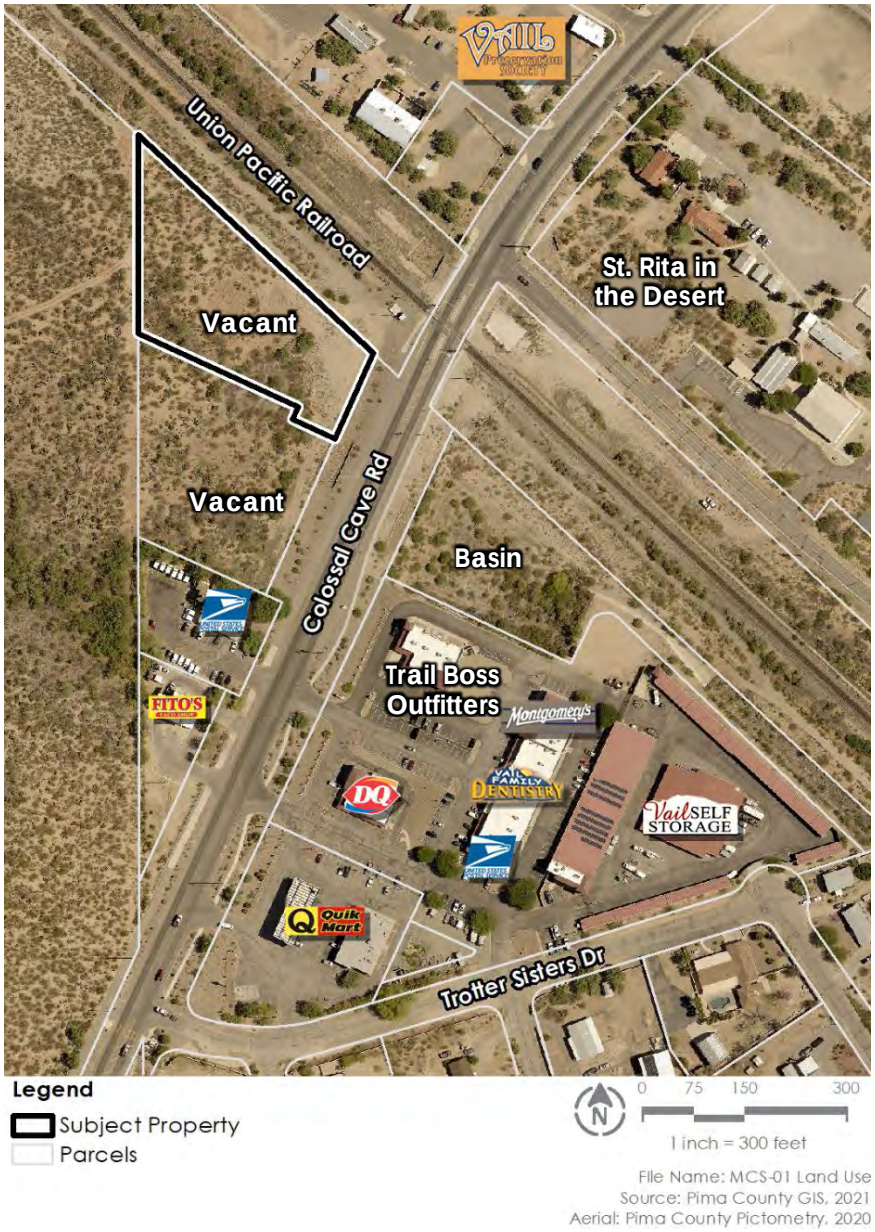
	Uses	Number of Stories
North	Union Pacific Railroad and land owned by the Vail Unified School District with various existing commercial businesses	1
South	Vacant land and Vail Post Office	1
East	Old Vail Station Retail Center	1 & 2
West	Vacant State Trust Land	N/A

More specifically, surrounding land uses are comprised of commercial services and retail businesses characteristic of shopping centers such as gas stations, personal services, medical facilities, restaurants, and professional offices. This general development pattern extends north and south along Colossal Cave Road, where churches, schools, and a Safeway grocery store and fueling station can be found.

3. Easements

There is one drainage easement located in the southeast corner of the property. It has been identified as sequence no. 20152780391.

EXHIBIT I.A.2: Surrounding Land Uses



4. Comprehensive Plan Guidance

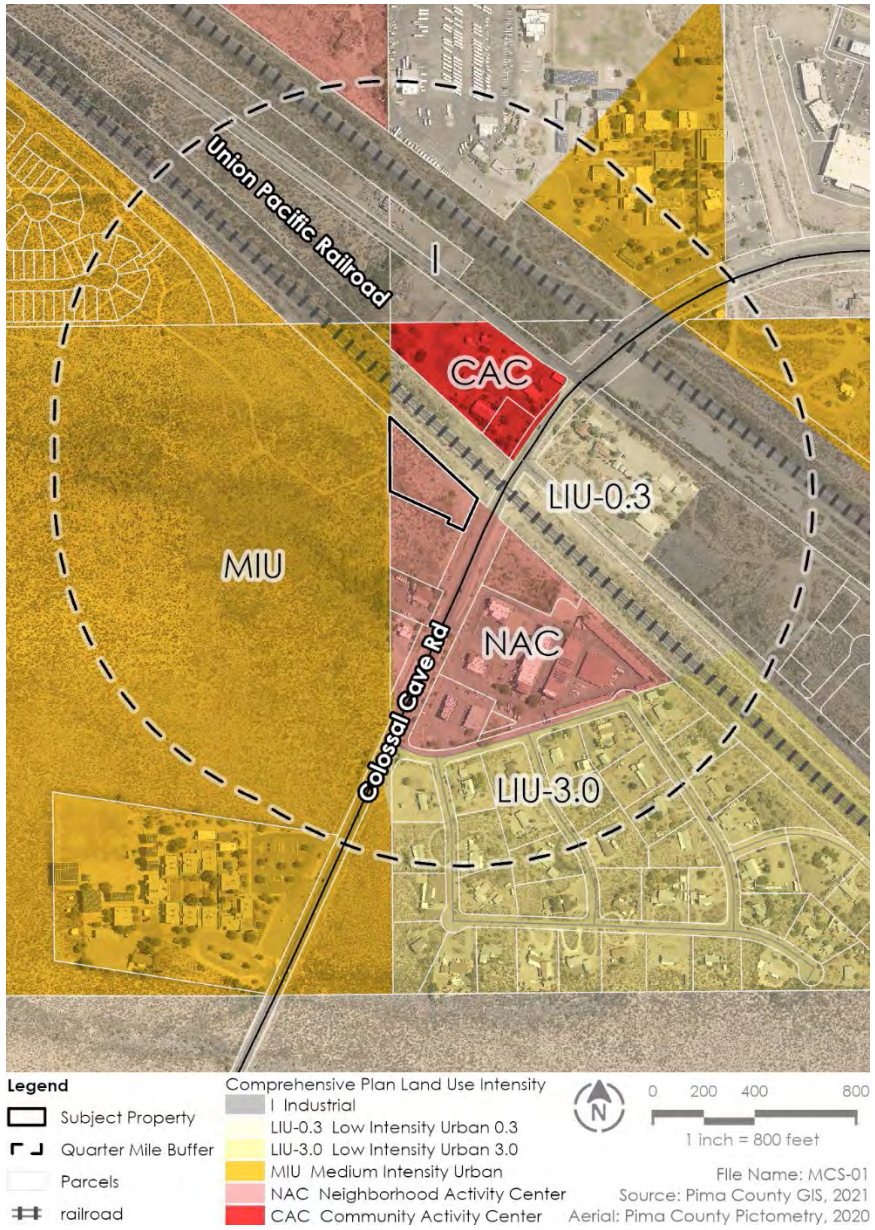
The *Pima Prospers* land use designation for the property is Neighborhood Activity Center (NAC) which supports this proposal since it will serve to enhance the mixed-use character of the Neighborhood Activity Center as a whole. Neighborhood Activity Centers provide goods and services within or near residential neighborhoods. That is exactly what the owners of Mexican Garden Pottery intend to do by opening this second location.

Surrounding comprehensive plan land use designations are as follows:

- North: Low Intensity Urban (LIU 0.3), Community Activity Center (CAC), Industrial (I), and Medium Intensity Urban (MIU)
- South: NAC
- East: NAC and LIU 0.3
- West: MIU

See *Exhibit I.A.4: Comprehensive Plan Designations*.

EXHIBIT I.A.4: Comprehensive Plan Designations



5. Existing Zoning

The subject property is zoned RH – Rural Homestead. Surrounding zoning includes:

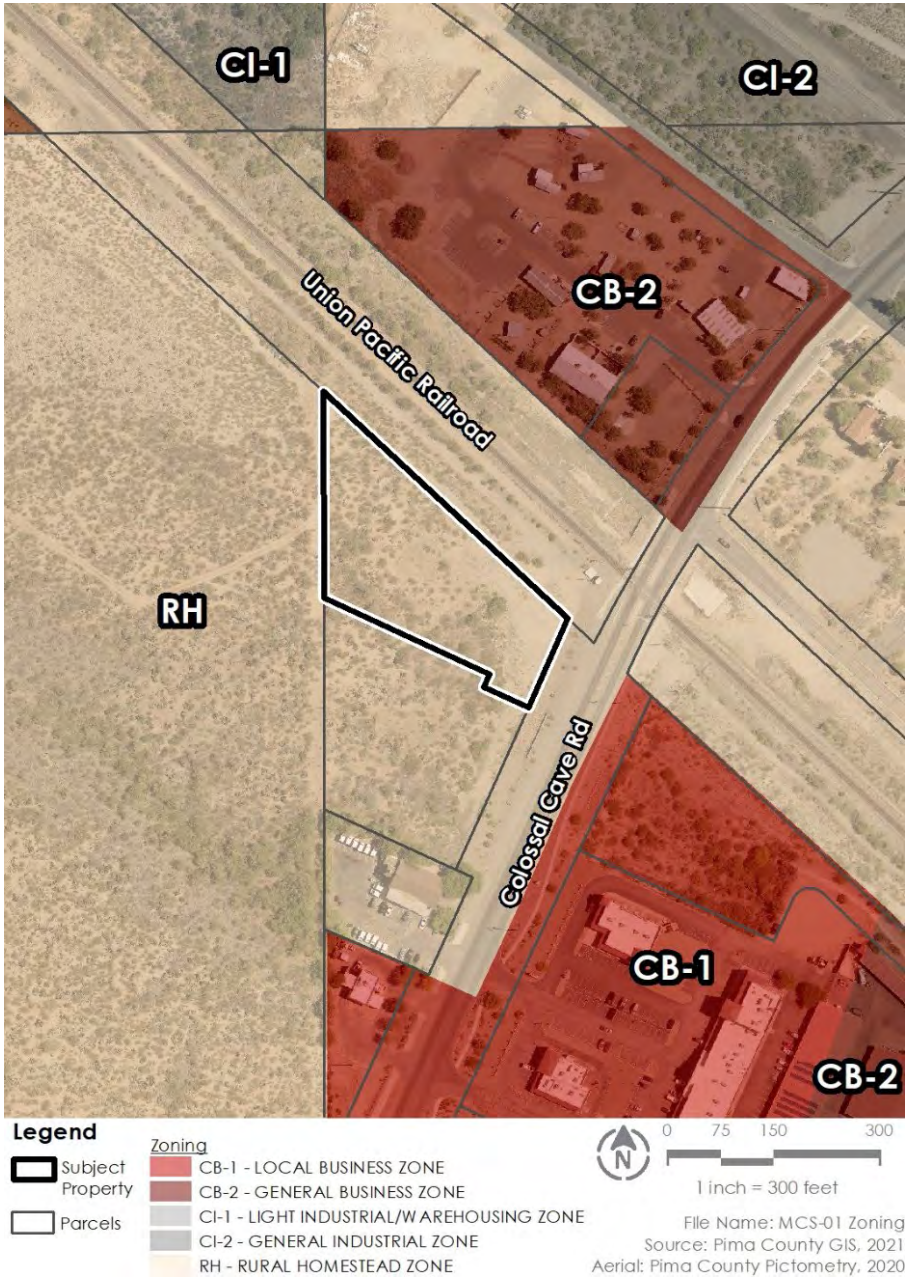
Table I.A.5: Existing Zoning

Subject Property	RH – Rural Homestead
North	RH, CI-1 – Light Industrial/Warehousing, CI-2 – General Industrial, and CB-2 – General Business
South	CB-1 – Local Business and RH
East	CB-1, CB-2, CI-2 and RH
West	RH

6. Pending Rezonings, Plats, or Development Plans

No pending rezonings, plats, or development plans are currently under review on adjacent properties within unincorporated Pima County. However, Arizona State Trust Land, approximately ½ mile west of the subject property is part of an over 2,000-acre rezoning effort in the City of Tucson known as the H2K Planned Area Development (PAD). The H2K PAD spans from Colossal Cave Road to Houghton Road and is intended for large-scale industrial and employment uses.

EXHIBIT I.A.5: Existing Zoning



B. Topography and Grading

1. Topographic Characteristics

The subject property is flat, with no peaks, ridges, or rock outcroppings. It is higher in elevation at the northeast corner and slopes down towards the lower elevation in the southeast property corner. No slopes of 15% or greater are present on-site. (see *Exhibit I.B.1: Topography*).

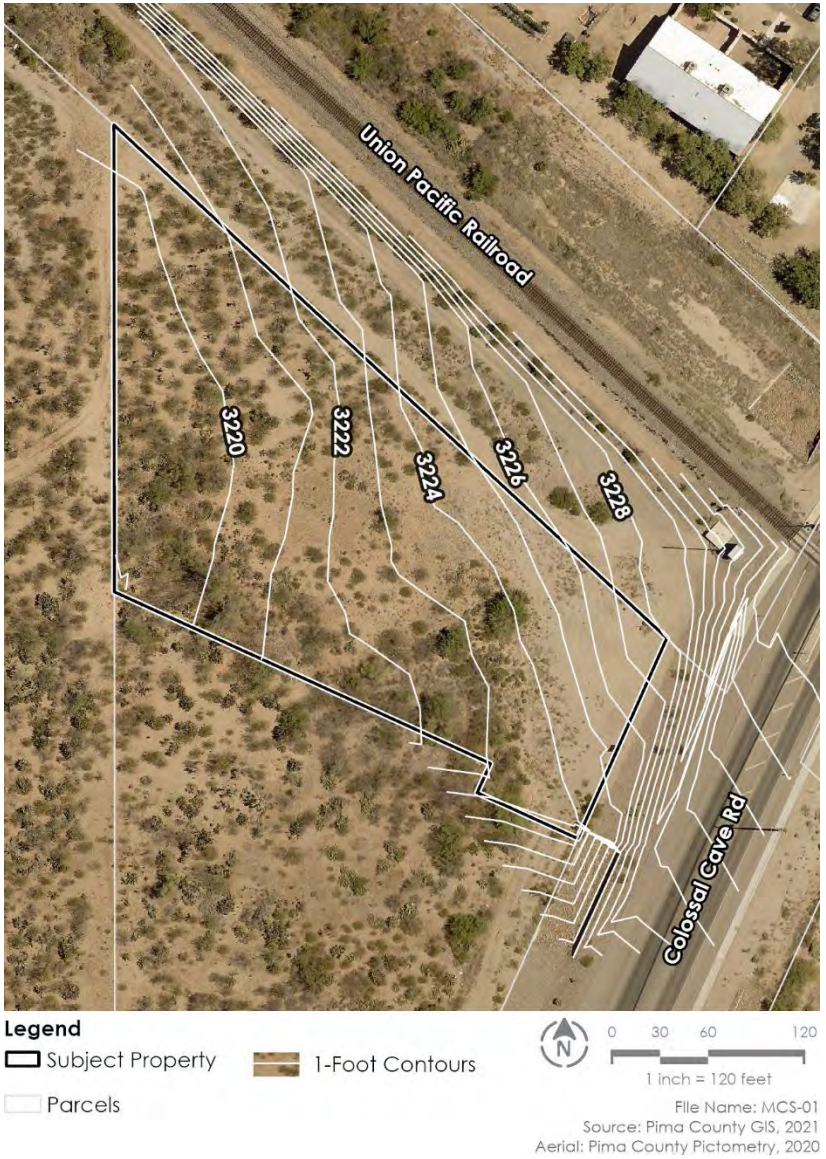
a. Existing Grading and Ground Disturbance

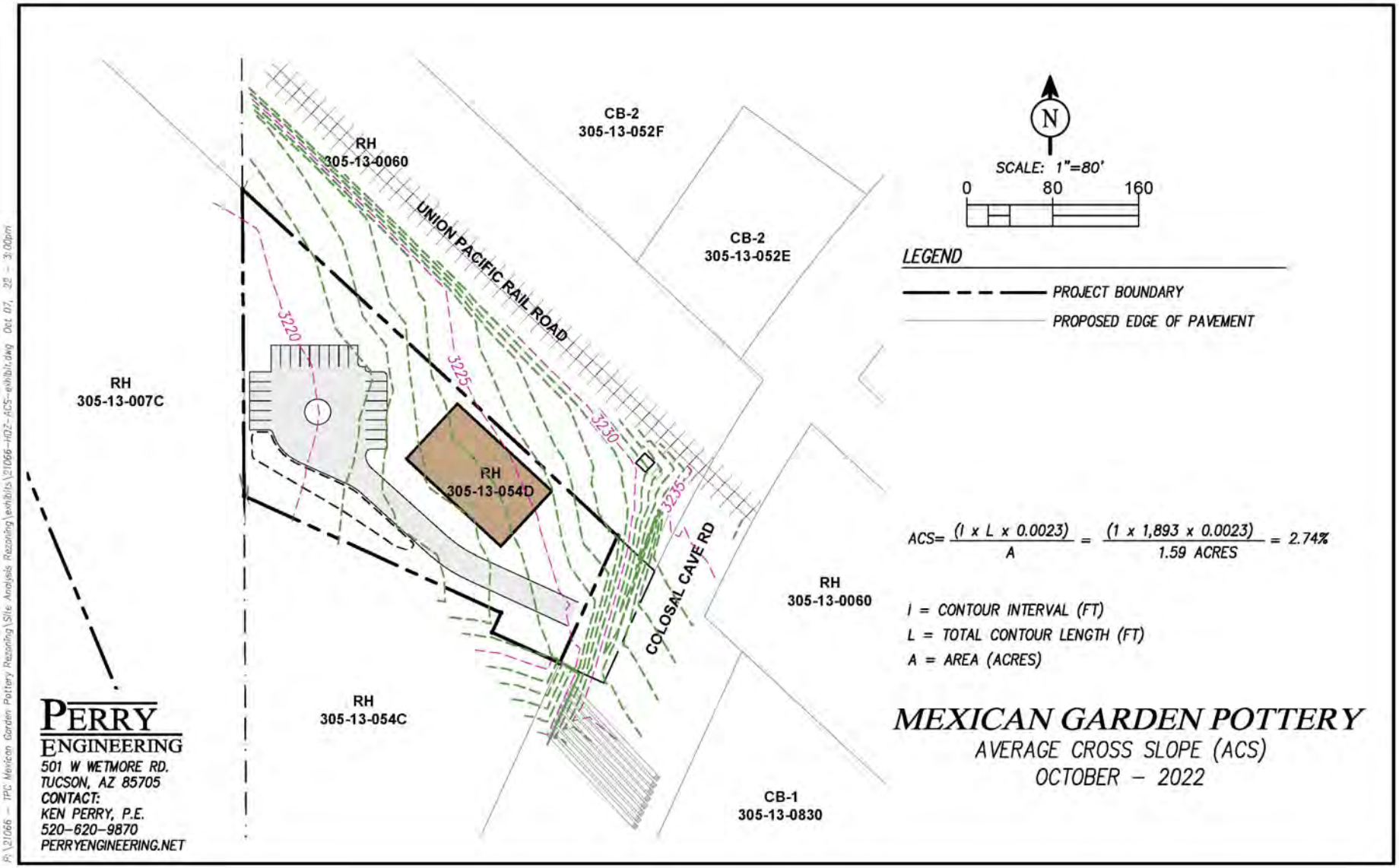
The on-site disturbance is possibly due to elevation and grade changes resulting from roadway and multi-use path construction adjacent to Colossal Cave Road. Additional disturbance adjacent to the northern property boundary is associated with the UPRR and informal dirt roads on or adjacent to the property.

b. Average Cross Slope

The pre-development average cross slope was calculated per Section 18.61.051 of the Pima County Zoning Ordinance, using Civil3d. The average cross slope was determined to be 2.74%. See *Exhibit I.C.1: Average Cross Slope* (ACS) for calculations.

EXHIBIT I.B.1: Topography




CB-2
305-13-052F
RH
305-13-0060
UNION PACIFIC RAIL ROAD
CB-2
305-13-052E
RH
305-13-007C
RH
305-13-054D
RH
305-13-0060
RH
305-13-054C
CB-1
305-13-0830
COLOSAL CAVE RD
3220
3225
3230
3235
N
SCALE: 1"=80'
0
80
160
LEGEND
PROJECT BOUNDARY
PROPOSED EDGE OF PAVEMENT
ACS= (I x L x 0.0023) / A = (1 x 1,893 x 0.0023) / 1.59 ACRES = 2.74%
I = CONTOUR INTERVAL (FT)
L = TOTAL CONTOUR LENGTH (FT)
A = AREA (ACRES)
MEXICAN GARDEN POTTERY
AVERAGE CROSS SLOPE (ACS)
OCTOBER – 2022
PERRY
ENGINEERING
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TUCSON, AZ 85705
CONTACT:
KEN PERRY, P.E.
520-620-9870
PERRYENGINEERING.NET

C.Hydrology

1. Offsite Hydrology

The project site is impacted by offsite stormwater run-on to the project site at the southwest parcel boundary. The offsite source of stormwater is the Julian Wash Watershed east of Colossal Cave Road. Stormwater discharges from the Julian Wash Watershed come across Colossal Cave Road through an 8-barrel 4'x2.4' RCPA. The project site is not subject to any additional offsite run-on, as the location of the parcel is situated on the southwest side of the elevated UPRR railroad embankment and the west side of the Colossal Cave Road embankment. Stormwater flow generally occurs from east to west across the project site. The magnitude of flow during a 1% Annual Chance (100-year) event at the project site is estimated at less than 500 cfs, according to the Pima County Regional Flood Control District. The estimated drainage area of the Julian Wash Watershed above Colossal Cave Road is 125 acres as measured using the MapTucson polygon tool and the City of Tucson watershed boundaries available on the MapTucson GIS layers. See *Exhibit I.C.1: Existing Hydrology* and *Exhibit I.C.3: Offsite Watershed Map*.

2. On-site Hydrology

Exhibit I.C.1: Existing Hydrology and *Exhibit II.E.1: Proposed Hydrology* depict the relevant conditions of on-site hydrology. Below is a list of the pertinent items:

- Flood Control Resource Areas

Two known Flood Control Resource Areas are on or adjacent to the project site. These include

Julian Wash drainage structure under Colossal Cave Road that touches southeast property corner

approximately 0.26 acres of mapped riparian habitat, Class C, and a regulatory watercourse. Both resources co-exist along the southern boundary of the project site. The regulatory watercourse is the Julian Wash, a broad, brushy flow path in the project area with poorly defined banks. There are no mapped floodplains or other known Flood Control Resources within the project area. See *Exhibit I.C.2: Existing Riparian*

a. Concentration Points and 100-Year Peak Discharges

The project site is considered to feature one on-site concentration point, where stormwater runoff generated on the subject parcel will exit the project area and join the offsite drainage system, which is the Julian Wash conveyance in this case. The single

concentration point is the western property boundary – especially at the southwest corner.

The peak discharge was estimated based on the assumption that one acre of land area at this site, in the existing condition, will generally produce about 5 cubic feet per second (cfs) as a 1% annual chance event (100-Year) peak discharge. This was based on previous experience with similar land and soil conditions. Because the parcel size is 1.59 acres, per the Pima County property details, the 1% peak discharge is estimated to be approximately 8 cfs. However, the total contributing drainage area also includes some areas outside of the parcel boundaries – mostly the embankment slopes for the UPRR and Colossal Cave Road. When these areas are added in, the total contributing on-site area becomes 2.43 acres, which roughly translates to 12 cfs during the 1% event. This discharge was rounded to the nearest whole integer for this Site Analysis. During the site design and permitting process, the most recent version of the Pima County Regional Flood Control District Hydrology Procedures, PC-Hydro, will be utilized to determine peak discharges and hydrograph volumes for sizing detention/retention and water harvesting basins.

b. FEMA-Designated and Locally Identified Floodplains

No federally mapped floodplains are on the project site per the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 04019C2940L. That FIRM panel has an effective date of June 16, 2011 and remains effective. There are also no locally identified floodplains on or adjacent to the site per the Pima County Regional Flood Control District.

Please see *Exhibit I.C.1: Existing Hydrology*.

c. Floodplain Delineation

As stated in Item b, no established federal or local floodplains exist. There is, however, a regulatory watercourse adjacent to the project site – the Julian Wash. A preliminary 1% annual chance floodplain was established using three Manning's cross sections across the Julian Wash flow path in the project vicinity. Only the approximate northern limit of this floodplain was drawn on *Exhibit I.C.1: Existing Hydrology*. It is considered likely that a more detailed floodplain would be determined during the design and permitting process.

d. Regulatory Sheet Flood Areas

No regulatory sheet flood areas are within or adjacent to the project area. As previously stated, since the adjacent Julian Wash is a regulatory watercourse, a floodplain could be determined in this vicinity. Also, because this watercourse is relatively broad, with poorly defined banks, the stormwater conveyance through this area could resemble sheet flow. First flush retention will be incorporated during the site construction permitting process.

e. Sources of Perennial Surface Water

There are no sources of perennial surface water at or near the project site. This would include lakes,

ponds, wetlands, springs, or any other possible sources of perennial surface water.

f. Erosion Hazard Setbacks

An Erosion Hazard Setback will be determined as part of the design and permitting process. This setback distance would impact the design of the proposed development in the form of erosion protection features. The building will be located outside of the EHS.

g. Regulated Riparian Habitat

As previously stated, the project site has 0.26 acres of mapped riparian habitat, identified as Xeroriparian 'C'. There are also areas of mapped and regulated riparian habitat adjacent to the project site on the south and west. Any riparian areas disturbed will require mitigation.

h. Flow Arrows for Non-Regulatory Flows

Flow arrows for all discharges flowing off the project site are indicated on *Exhibit I.C.1: Existing Hydrology*.

i. Easements

A four-hundred seventy-two square foot drainaige easement (Sequence No. 20152780391) exists in the southeast property corner. This project is not aniticpated to affect the easement, however written approval from the Director of Pima County Department of Transportation will be obtained should impacts be necessary. An offsite private drainage easement within the Old Vail Village commercial subdivision (Map 49 Page 16, January 1997) through which storm water will be delivered to the aforementioned 8-4'x2.4' RCPA under Colossal Cave Road. There are no known drainage easements that will affect the site drainage design.

j. Existing Drainage Infrastructure

There is no existing constructed drainage infrastructure on the project site. However, a very short distance upstream of the southeast corner of the subject parcel, there is the aforementioned 8-4'x2.4' RCPA, which conveys the Julian Wash discharge under Colossal Cave Road. Stormwater emerging from this culvert spreads out over the downstream conveyance corridor.

3. Hydrology

a. Watershed Features

The on-site drainage patterns will change slightly with the construction of the proposed development at the site. These changes may include adding a discharge location at or near the northwest corner of the parcel. The topographic layout of the site is such that at least some storm water discharge will likely remain effectively the same at the southwest corner of the site, regardless of internal changes within the project site. Therefore, the distribution and magnitude of outflows coming from the site will remain effectively intact. Conceptual drainage patterns internal to the proposed conditions site can be seen in *Exhibit II.E.1: Proposed Hydrology*. Since the location of the project site is not within a Pima County identified critical basin, the proposed condition peak outflows from the site will include the goal of not exceeding the existing conditions' peak

outflows. Flow conditions at points downstream of the project site will change very little due to the proposed development at the site.

b. Acreage and 100-Year Peak Discharge of Upstream Watersheds

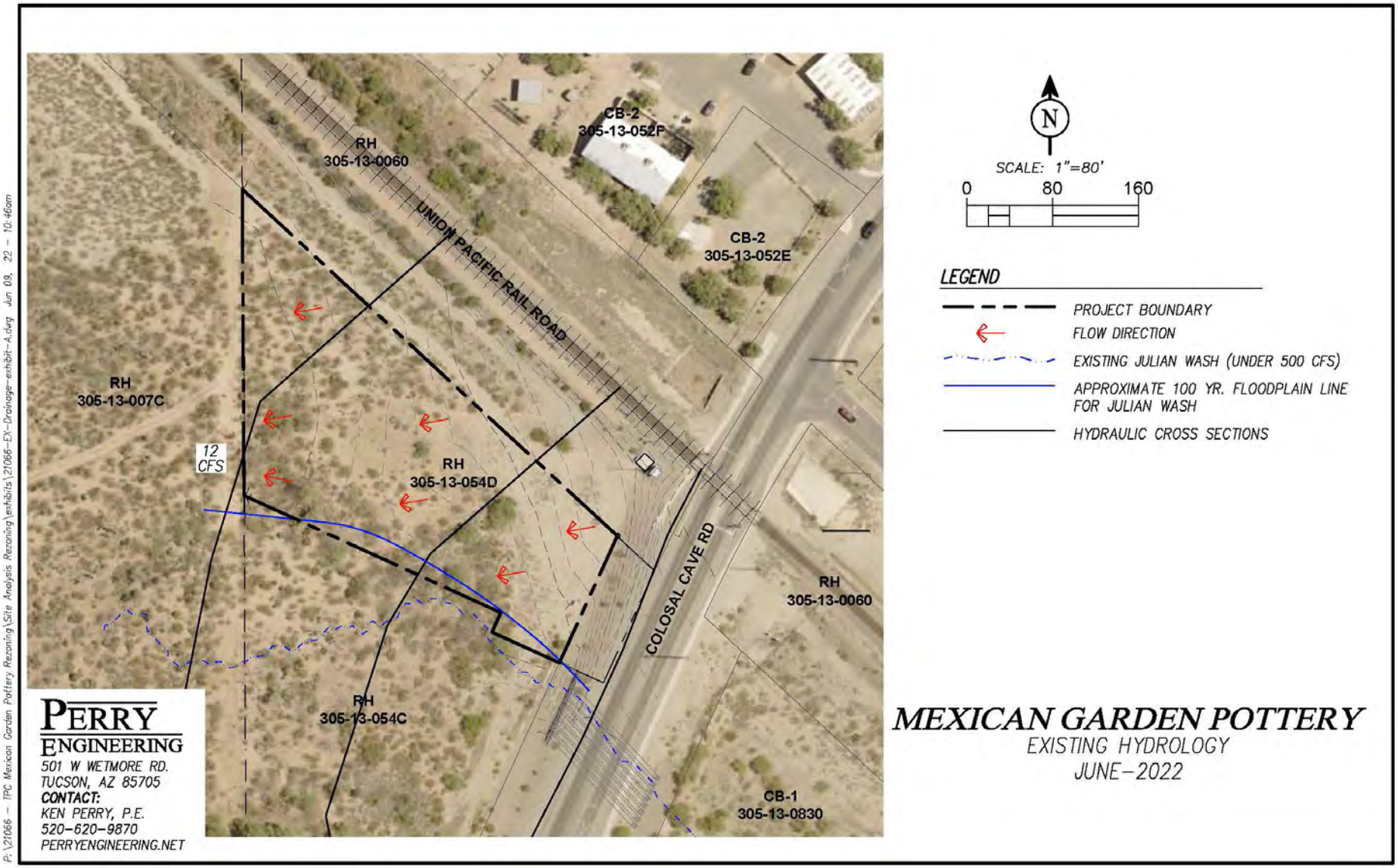
The only upstream watershed is the Julian Wash watershed, which contributes stormwater at the southwest property boundary, and includes approximately 125 acres. The 1% (100-year) peak discharge for the upstream Julian Wash watershed was calculated using PC-Hydro, Ver. 7.1, and determined to be approximately 380 cfs. Other than that, no other upstream watersheds will effectively contribute any meaningful stormwater to the site. This is because the project site is adjacent to the Union Pacific Railroad (UPRR) and Colossal Cave Road's embankments. These embankments prevent stormwater from arriving at the project site from areas further upstream, other than the Julian Wash, through the 8-4'x2.4 RCPA under Colossal Cave Road. A total of approximately 0.8 acres arrives at and flows through, the project site from these embankment slopes. These areas were included in the estimated 2.43 acres of estimated on-site contributing drainage area.

c. Methodology to Determine Erosion Hazard Setbacks

Because the Julian Wash is a regulatory watercourse, there will be an applicable erosion hazard setback (EHS) for the Julian Wash. Per Section 16.28.030 of the Pima County Floodplain Ordinance; the EHS will be the standard 25 feet, as the 1% peak discharge for this reach of the Julian Wash is less than 500 cfs according to the information found on the PimaMaps GIS resource, and verified with the PC-Hydro calculation for the Julian Wash upstream watershed. Because the Julian Wash conveyance channel, and channel banks, are not well defined in this area, the EHS will likely be measured from the edge of the 1% floodplain. To determine the location of the EHS through the project site, it will be necessary first to determine the 1% floodplain, which will be completed during the design and permitting process for this development. Based on this, some erosion protection will likely be necessary along the southwest side of the proposed development's access drive and parking area.

d. Methodology to Determine 100-Year Floodplains

Because the Julian Wash is a jurisdictional watercourse at the project site, the 1% annual chance (100-year) floodplain will be determined in the project vicinity. At this time, the 1% (100-year) floodplain for the Julian Wash will be estimated using Manning's cross-sections drawn from the 1998 Pima Association of Governments (PAG) topography available at the MapTucson GIS resource and using the aforementioned 1% peak discharge estimate of 380 cfs. During the design and permitting this project's design and permitting phaseation methodology will change to utilize the U.S. Army Corps of Engineer's water surface profile model, HEC-RAS.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CB-2
305-13-052F
CB-2
305-13-052E
UNION PACIFIC RAIL ROAD
RH
305-13-007C
12
CFS
RH
305-13-054D
COLOSAL CAVE RD
RH
305-13-0060
RH
305-13-054C
CB-1
305-13-0830
N
SCALE: 1"=80'
0
80
160
LEGEND
PROJECT BOUNDARY
FLOW DIRECTION
EXISTING JULIAN WASH (UNDER 500 CFS)
APPROXIMATE 100 YR. FLOODPLAIN LINE FOR JULIAN WASH
HYDRAULIC CROSS SECTIONS
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MEXICAN GARDEN POTTERY
EXISTING HYDROLOGY
JUNE-2022
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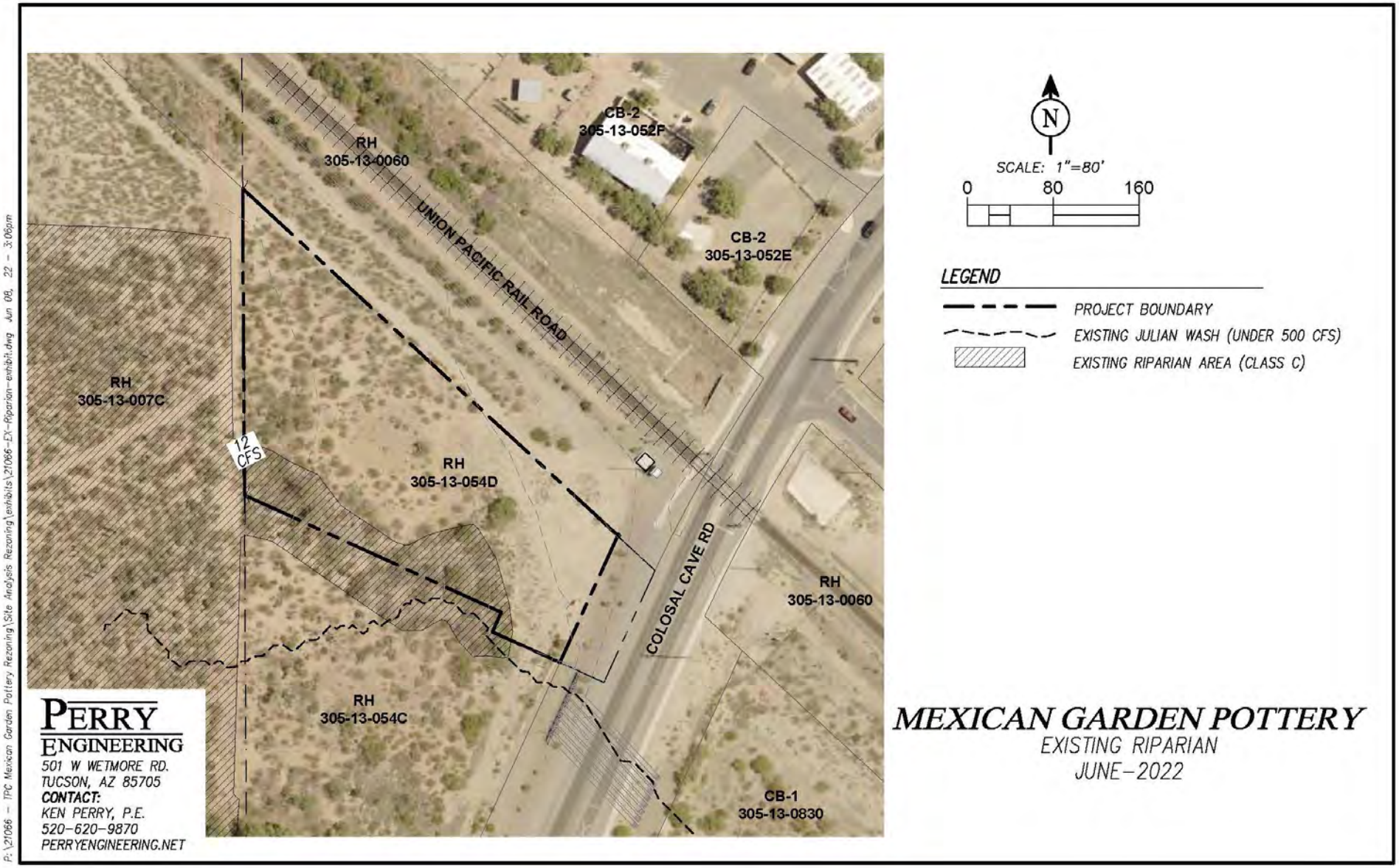
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RH
305-13-0060
RH
305-13-054C
CB-1
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SCALE: 1"=80'
0
80
160
LEGEND
PROJECT BOUNDARY
EXISTING JULIAN WASH (UNDER 500 CFS)
EXISTING RIPARIAN AREA (CLASS C)
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501 W WETMORE RD.
TUCSON, AZ 85705
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MEXICAN GARDEN POTTERY
EXISTING RIPARIAN
JUNE-2022
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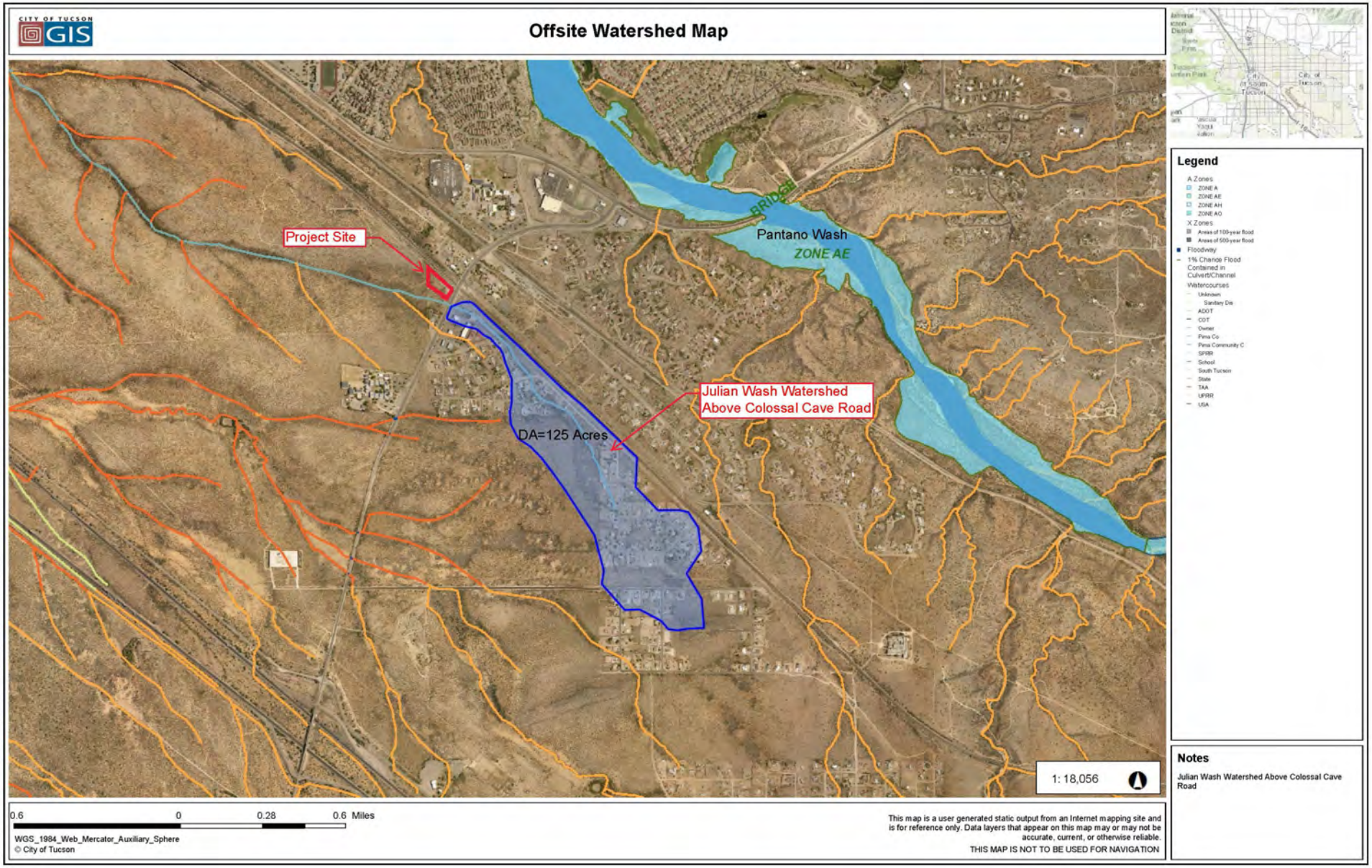
CITY OF TUCSON
GIS
Offsite Watershed Map
Project Site
Pantano Wash
ZONE AE
BRIDGE
Julian Wash Watershed
Above Colossal Cave Road
DA=125 Acres
1: 18,056
Legend
A Zones
ZONE A
ZONE AE
ZONE AH
ZONE AO
X Zones
Areas of 100-year flood
Areas of 500-year flood
Floodway
1% Chance Flood Contained in Culvert/Channel
Watercourses
Unknown
Sanitary Dis
ADOT
COT
Owner
Pima Co
Pima Community C
SPRR
School
South Tucson
State
TAA
UPRR
USA
Notes
Julian Wash Watershed Above Colossal Cave Road
0.6 0 0.28 0.6 Miles
WGS_1984_Web_Mercator_Auxiliary_Sphere
© City of Tucson
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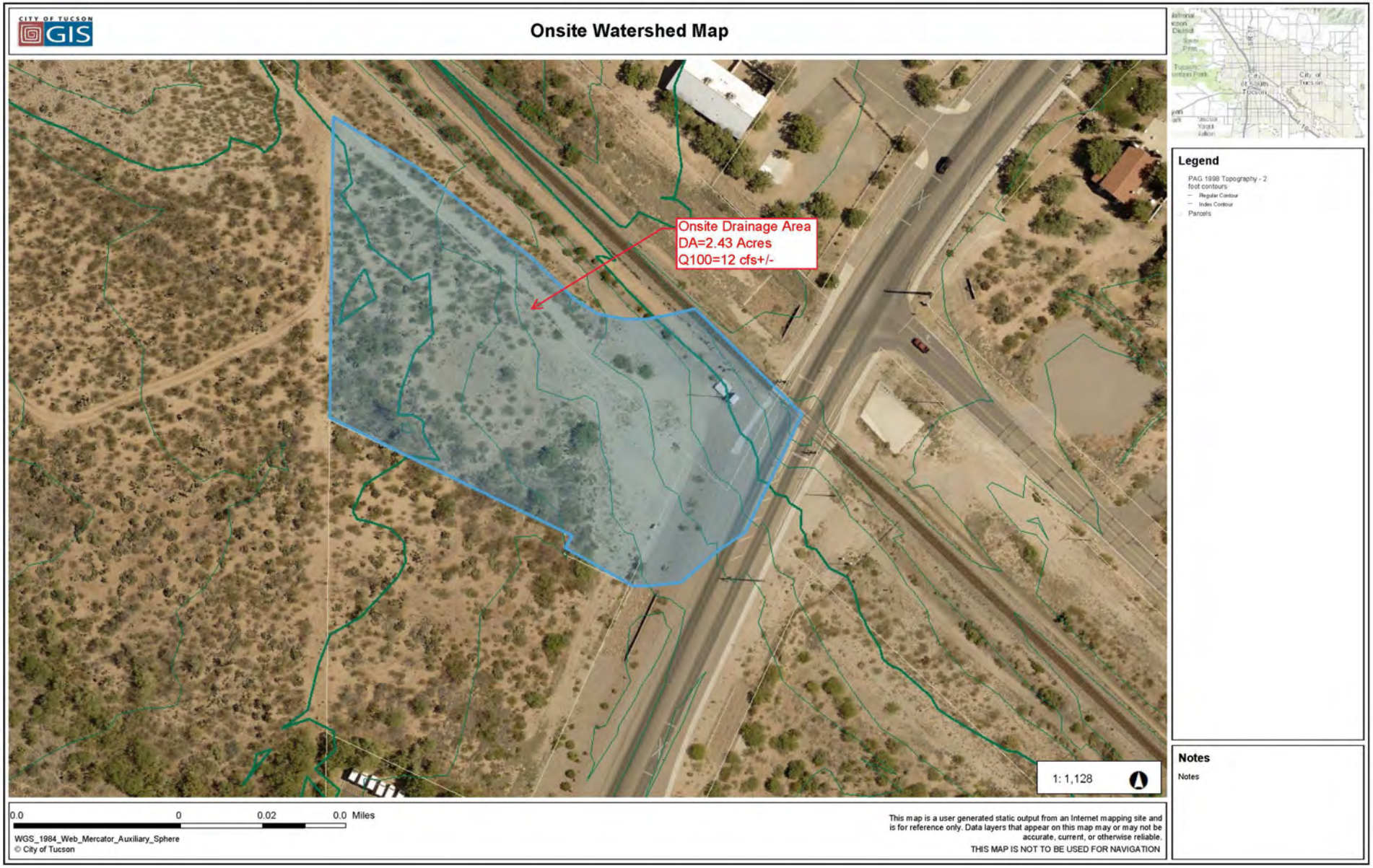
CITY OF TUCSON
GIS
Onsite Watershed Map
Onsite Drainage Area
DA=2.43 Acres
Q100=12 cfs+/-
1: 1,128
Legend
PAG 1998 Topography - 2 foot contours
Regular Contour
Index Contour
Parcels
Notes
Notes
0.0 0 0.02 0.0 Miles
WGS_1984_Web_Mercator_Auxiliary_Sphere
© City of Tucson
This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
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D. Biological Resources

1. Conservation Lands System

According to the Pima County Conservation Lands System (CLS) Map, the entire site is outside of the CLS.

2. Priority Conservation Area (PCA)

a. Pima Pineapple Cactus

The site is located within the Pima Pineapple Cactus Priority Conservation Area (PCA). However, habitat models available on Pima Maps SDCP indicate a low likelihood of the species being present.

b. Other PCA's

The site is not located within the PCA for Needle-spined pineapple cactus, Pygmy Owl, or Burrowing Owl.

3. Saguaros and Ironwood Trees

There are no Saguaro or Ironwood trees on-site.

4. Habitat Protection/ Community Open Space

Per the Sonoran Desert Conservation Plan, the site is not identified for habitat protection or community open space.

E. Transportation

1. Existing and Planned Offsite Streets

a. Rights-of-Way

Colossal Cave Road is a medium volume arterial with a 150-foot right-of-way and is classified as a Major Scenic Route, as shown in *Exhibit I.E.1: Transportation Context*. Mary Ann Cleveland Way is another Major Scenic Route within one mile of the project site and is currently classified as a low volume arterial with a 150-foot right-of-way.

Table I.E.1: Roadway Inventory

Roadway Segment	Existing Right-of-Way*	Number of Travel Lanes	Capacity	Posted Speed Limit
Colossal Cave Road (Old Vail Rd – Wentworth Rd)	150 ft	2	12,635	35/45 mph
Mary Ann Cleveland Way (Red Iron Tr – Long Tank Dr)	150 ft	3	15,930	35/45 mph

a. Present Average Daily Trips (ADT) for Existing Streets

Table I.E.2 Average Daily Trips identifies traffic counts on roadways within one mile of the project site per the Pima Association of Governments (PAG) Roadway Segment Traffic Counts.

Table I.E.2: Average Daily Trips

Road	Average Daily Trips (Year Taken)
Colossal Cave Road	11,430 (2021)
Mary Ann Cleveland Way	9,696 (2021)

b. Existing Bicycle and Pedestrian Ways

Bicycle lanes exist on both sides of Colossal Cave Road. There is a sidewalk on the east side of Colossal Cave Road with a multi-use path on the west side. The sidewalk on the east side of the street ends at E Trotter Sisters Drive, and the multi-use path ends at Acacia Elementary school. The bike lane ends 350 feet south of Acacia Elementary School.

c. Scheduled Roadway Improvements

Pima County Department of Transportation (PCDOT) does not list any projects currently in design, under construction, or recently completed within one mile of the project site. PAG's *2045 Mobility and Accessibility Plan (RMAP)* lists Colossal Cave Road between I-10 and Mary Ann Cleveland Way as an "In-Plan Project" to widen the road to three lanes and provide bike lanes. The project location is on a portion of Colossal Cave Road that has already completed these improvements, which now extend from Mary Ann Cleveland Way to approximately 350 feet south of Acacia Elementary School.

2. Distances from the Site to Existing Roadways

Exhibit I.E.2: Intersections has been provided to give more detailed information on existing rights-of-way adjacent to the site and the distance from the site to the nearest existing curb cut and street.

3. Bus Routes

The subject property is outside the range of service for Sun Tran and other regional transit options such as Sun Link, Sun Shuttle, and Sun Express.

Exhibit I.E.1: Transportation Context

Exhibit I.E.2: Intersections

F. Sewers

1. Existing Public Sewer

The site will not make use of the existing public sewer system. A septic system will be installed for this project (see *Exhibit I.F.1: Existing Sewer Network*).

Existing public sewer is located approximately one-half mile northeast of the property in Colossal Cave Road adjacent to the Mercado Del Lago shopping center. Additionally, the UPRR has two sets of tracks to the north of the parcel. Both the distance and UPRR impediment is a cost-prohibitive constraint to a possible extension of the existing sewer network to the project.

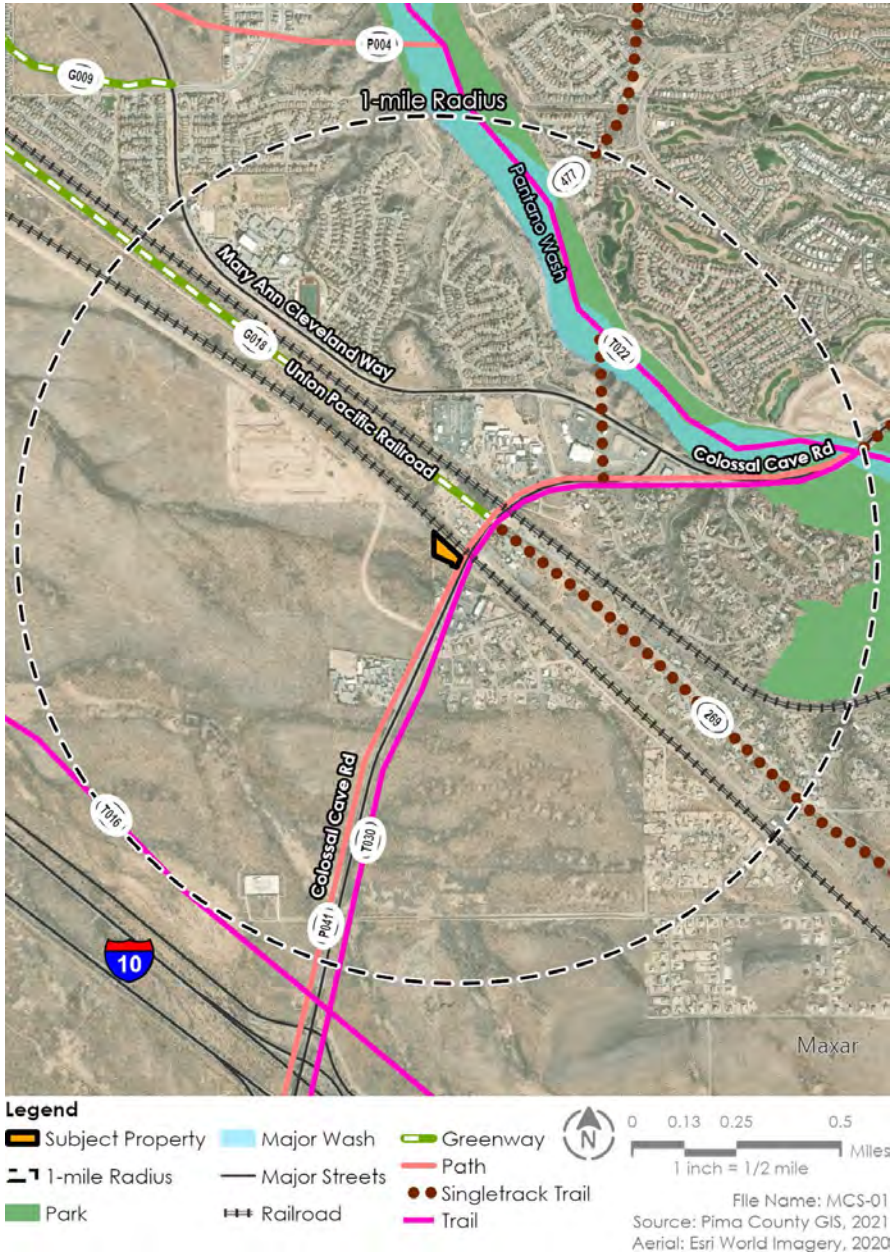
Exhibit I.F.1 Existing Sewer Network

G.Recreation

1. Existing Recreational Facilities

The Cienega Creek Natural Preserve is located within one-mile of the subject property. As shown in *Exhibit I.G.1: Recreation*, immediately adjacent to the eastern property boundary is the Wentworth Path (P041) and Wentworth Trail (T030). Between the UPRR tracks along the E Old Vail Road alignment west of Colossal Cave Road is the planned Esmond Station Greenway (G018). East of Colossal Cave Road is singletrack trail 269.

Exhibit I.G.1 Recreation



H. Cultural Resources: Archaeological and Historic Sites (Without Sections 2 & 3)

1. Records Check

a. Cultural Resources Field Survey

The site is not eligible for listing in the National Register of Historic Places but has been fully recorded and documented by archaeologists as a single-episode trash deposit.

b. Previously Recorded Archaeological or Historic Resources

Historical artifacts have been identified on the property, many of which are items like glass bottles and milk cans.

c. Probability of Buried Archaeological Resources

It was indicated that archaeologists had previously fully recorded and documented the site and it is unlikely that any further buried archaeological resources are located on-site.

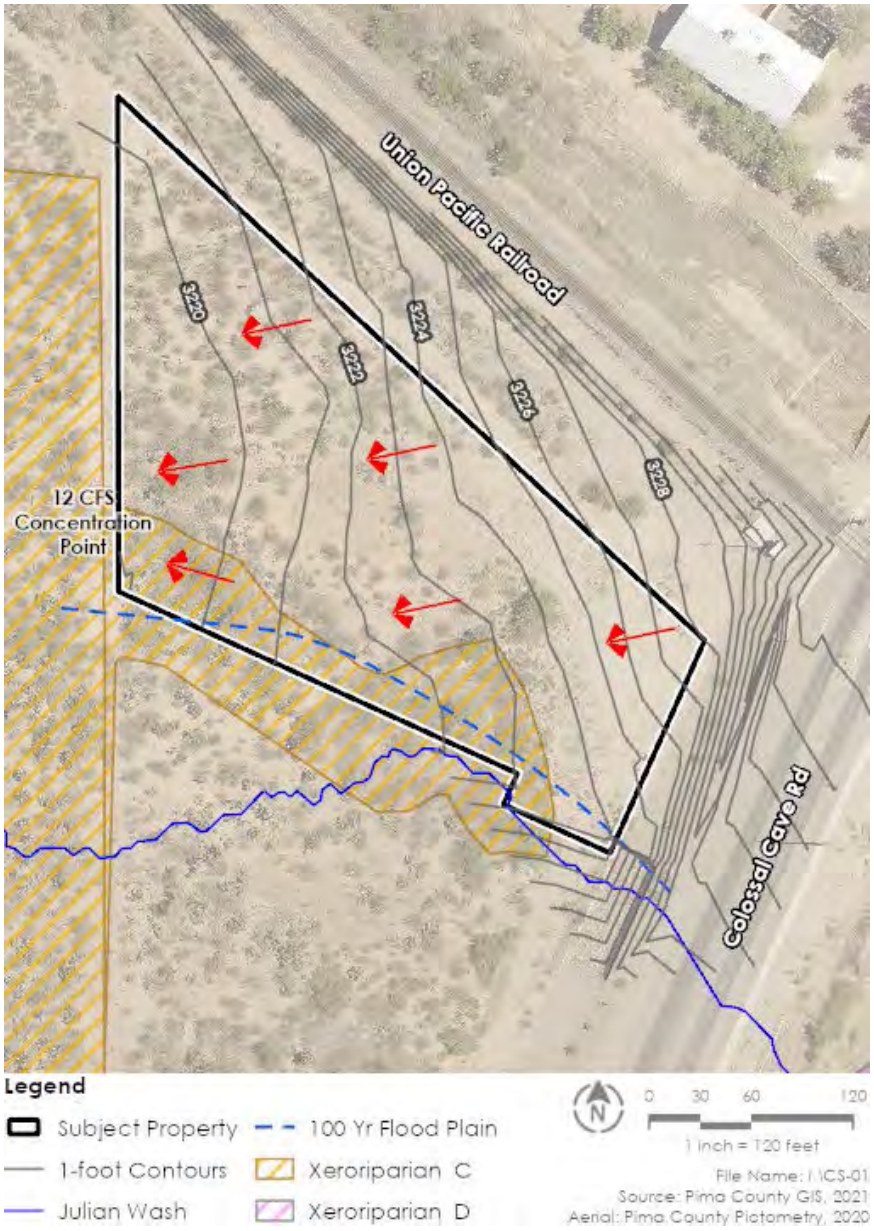
d. Archaeological Survey Recommendations

Per discussions with the Pima County Office of Sustainability and Conservation, Cultural Resources & Historic Preservation Division, Site AZ BB:14:713 (ASM) was recommended by WSA in 2006 as Not Eligible for listing in the National Register of Historic Places. It represents a surface only single-episode trash deposit that was fully recorded and documented by qualified archaeologists. Artifacts dating from the late 1800s to around 1920 were found and are thought to be trash deposits associated with the El Paso & Southwestern Railroad -AZ EE3:74(ASM). There are no additional requirements for surveys, but it is recommended that an interpretive element be incorporated into the development. Staff further recommends utilizing the Vail Preservation Society as a reference for possible assistance with incorporating an interpretive element into the development plan.

I. Composite

Exhibit I.I.1: Composite Map depicts the combined constraints present on the subject property. The primary constraint is the Xeroriparian 'C' habitat located adjacent to the southern property boundary. Secondary constraints are the floodplain associated with the Julian Wash also adjacent to the southern property boundary. While these constraints will be avoided to the greatest extent possible, some disturbance is expected for access to and from the property to Colossal Cave Road. The subject property is generally flat with no slopes greater than 15%. Vegetation can be described as typical Sonoran Desert Scrub, with the predominant species identified during site visits being Creosote (Larea tridenta) and Mesquite (Prosopis velutina).

Exhibit I.I.1: Composite Map



II. LAND USE PROPOSAL

A. Project Overview

The Mexican Garden Pottery Rezoning seeks to rezone approximately 1.59 acres of land at 13185 E Colossal Cave Road (APN: 305-13-054D) from RH (Rural Homestead) to CB-2 (General Business). The purpose is to add a second location for the Mexican Garden Pottery business, which is currently located at N Oracle Road and W Laguna Street in midtown Tucson. This new location will allow the company to add Mexican furniture to its repertoire of goods and expand its business to serve the Vail region.

The rezoning is located on a commercial corridor with no similar business. With a growing population in the Vail area, this expansion gives property owners, renters, and tourists the ability to furnish their homes with furniture and pottery and buy mementos that are representative of southern Arizona's cultural heritage.

1. Proposed Zoning Boundaries

See *Exhibit I.A.1: Rezoning Boundaries*.

2. Project Description

a. Proposed Development Use and Type

The owners will develop the property to create a boutique-style outdoor pottery display area and construct a building up to 8,400 square feet in size for the sale of Mexican pottery, furniture, and other decor. Interior and exterior display areas will arrange pottery and furniture in a manner that creates stylized display areas to help differentiate Mexican Garden Pottery's offerings from other pottery and furniture businesses in the region. Additionally, the development style will complement surrounding uses, specifically the Union Pacific Railroad, Vail Post Office, the Vail Depot north of the railroad tracks, and the other commercial businesses across the street at Old Vail Station.

b. Project Response to Site Opportunities and Constraints

The parcel's irregular shape, proximity to the UPRR, and the existing riparian area on-site could deter traditional commercial business owners from choosing it. However, the ability to utilize those areas of the property that may otherwise go unused to maximize the site's outdoor display potential while preserving the majority of the riparian area is ideal for the Mexican Garden Pottery.

The project will interface well with the UPRR (pictured above) that runs along the northern boundary of the parcel by potentially incorporating rail and industrial design elements into the overall project. Examples such as using railroad ties for curb stops and compacted railroad ballast as parking and display surfacing will greatly enhance the sense of place of the surrounding area.

The project location is along one of only two major arterials entering Vail, which greatly enhances its marketability and viability for

commercial development. Additionally, the parcel's retail viability is further enhanced by its high visibility from Colossal Cave Road and convenient access to and from I-10.

c. Project Conformance to *Pima Prospers* and Applicable Regional, Special Area, and Rezoning Policies

The parcel is located in the Rincon Valley Planning Area of *Pima Prospers*, the Pima County Comprehensive Plan. The *Rincon Valley Planned Land Use* map designates the area as Neighborhood Activity Center (NAC) with surrounding Medium-Low/Medium Intensity Urban (MIU), Low-Intensity Urban (LIU 3.0), and Industrial (I). NAC encourages lower-intensity mixed-use developments with anchor tenants like grocery markets and other neighborhood scale services such as banks, hardware stores, and comparable retail establishments. *Pima Prospers* does not require a project to be mixed-use to locate in the Neighborhood Activity Center, only that the project enhances the mixed-use character of the area. By expanding the number of uses in this commercial corridor, the Mexican Garden Pottery Rezoning increases the commercial business variety in Vail and furthers the goals of *Pima Prospers* and the Rincon Valley subregion.

d. How the Proposed Project Addresses Surrounding Property Owners Needs

Choosing Pima County to open a second location provides a boon for other nearby retail businesses because it does not compete. Instead, it gives residents another reason to visit the area and stay for a longer period, leading to them frequenting other businesses and keeping money local. Furthermore, local homeowners can purchase unique furnishings without the need for extended travel. The next closest commercial activity that provides similar goods is the Civano Nursery on South Houghton Road and Quality Pottery along South Nogales Highway. Both locations would require vehicle trips over fifteen minutes outside of the Vail area, and neither provide furniture as part of their sales. At Mexican Garden Pottery store, visitors to Vail, specifically tourists to Colossal Cave, will have the opportunity to take home authentic Tucson/Southwest pottery and furniture, stop for lunch at Old Vail Station, and grab some gas before continuing their journey through southern Arizona.

e. Impact to Existing Land Uses and Surrounding Land Uses

The proposed project is a neighborhood-level commercial use that will support nearby existing businesses. Its location at the southwest

corner of the intersection of Colossal Cave Road and the UPRR means there will be little impact on land uses to the north. South of the parcel is the Vail Post Office, but an empty parcel separates it from the proposed project. East of Colossal Cave Road is Old Vail Station, a commercial center with a variety of businesses that can be accessed about four-hundred feet south of this project's proposed ingress/egress. The Mexican Garden Pottery proposed access point promotes safe vehicular movements between both developments.

f. Project Contribution to Smart Growth Principles

Mixing of land uses is a significant component of smart growth. *Pima Prospers* lists the integration of land uses as the first goal in Chapter 3, Use of Land. By locating this project in an already commercial area, the project is expanding Vail's retail footprint and helping foster economic development.

Ensuring development creates an attractive community with a strong sense of place is another component of smart growth. This project may incorporate southwest design elements prevalent in the area (like those displayed by the Vail Post Office) by integrating design aspects of surrounding development.

g. Sustainability Features

It is anticipated that impervious surfaces will be kept to a minimum throughout the property by utilizing alternative materials to the greatest extent possible. The driveway, apron, and handicap parking will be asphalt. Pervious surface treatments will likely be utilized throughout the rest of the parking area and the outdoor display areas. Trees and vegetation will be incorporated throughout the property to reduce the urban heat island effect.

The Xeroriparian 'C' habitat on-site will be preserved to the greatest extent possible. It is anticipated that the only disturbance will be for the driveway to Colossal Cave Road and a portion of the drainage infrastructure.

3. Compliance with Zoning Code

The proposed rezoning complies with all sections of the Pima County Code. An Individual Parking Reduction Plan (IPRP) will be submitted concurrently with this rezoning application.

a. Individual Parking Reduction Plan

An Individual Parking Reduction Plan (IPRP) was crafted by M Esparza Engineering and has been submitted for concurrent review with this rezoning application. Parking calculations for this project utilized the "furniture store" use and "general retail". At 1 parking space per 400 square feet (sf) of gross floor area, and 3.5 spaces per 1,000 sf of gross floor area, it was determined that the proposed project would require 21 parking spaces for an 8,400-square foot (-sf) building and an additional 76 spaces if the 21,700-sf outdoor display area is included in the calculations.

M Esparza Engineering conducted a field review and found that the existing Mexican Garden Pottery location on Oracle Road had a maximum of 12 parked cars during a Saturday observation period. The IPRP suggests 20-25 parking spaces are adequate for this project which is reflected in *Exhibit II.B.1: Preliminary Development Plan*.

B. Plan (PDP)

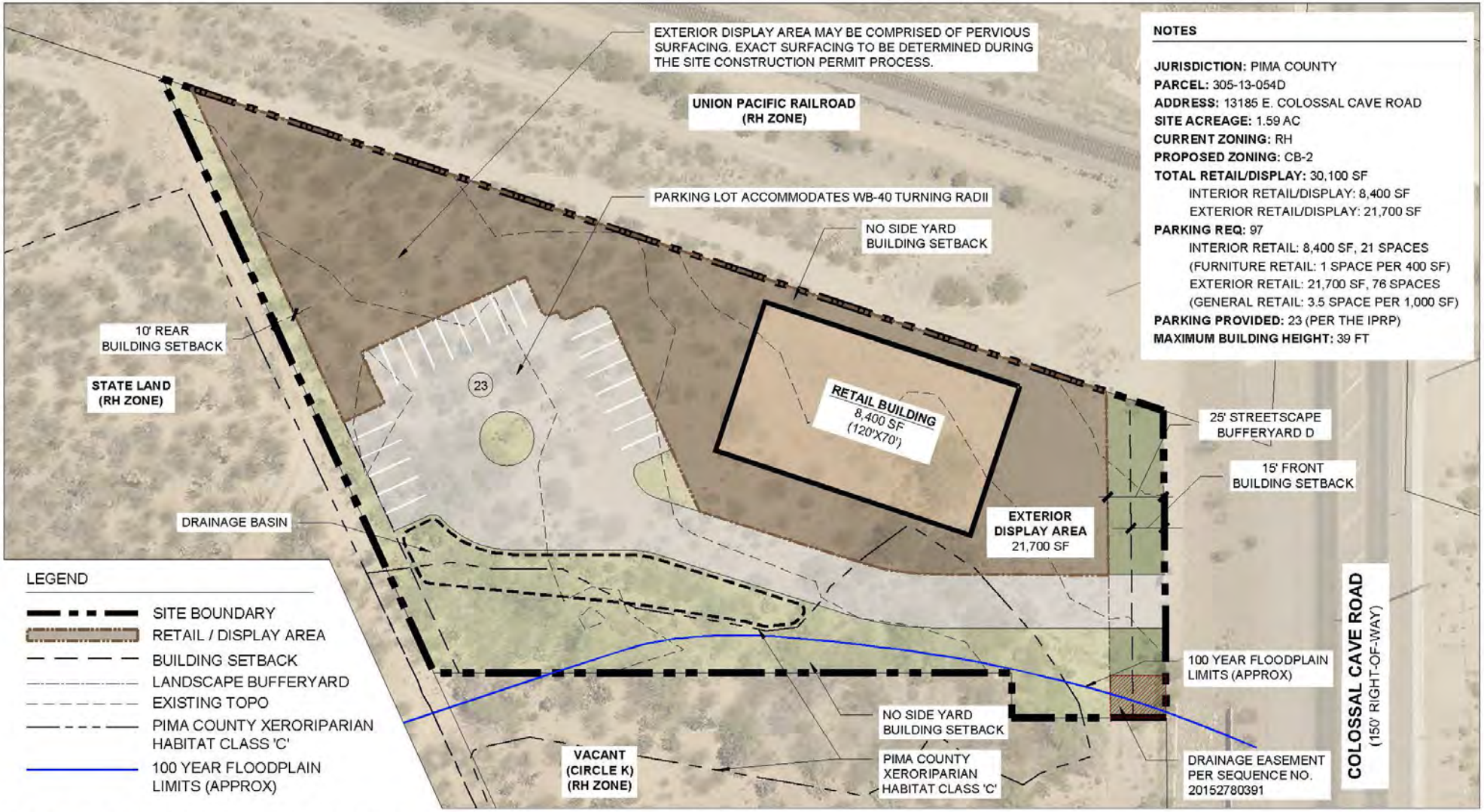
1. Preliminary Development Plan (PDP)

The Preliminary Development Plan was created to illustrate the proposed Mexican Garden Pottery store with the utilization of an IPRP. *Exhibit II.B.1: Preliminary Development Plan* has an 8,400 sf indoor retail area and 21,700 sf of outdoor display area. The IPRP allows the site to maximize the availability of outdoor display area while still providing parking in excess of the existing fortytwo thousand square foot location in midtown Tucson. Outdoor display areas have been created in both the front and rear of the building to create multiple locations for boutique-style displays.

Parking and loading areas will primarily be located at the rear of the property, with easy accessibility to the indoor area. Twenty-three parking spaces have been provided, and PAALs have been utilized as circulation for deliveries.

The structure's height is yet to be determined but will not exceed the maximum allowed height of 39 feet.

Exhibit II.B.1: Preliminary Development Plan



MEXICAN GARDEN POTTERY REZONING

C.Topography and Grading

1. Development on Slopes of 15% or Greater

As seen in *Exhibit II.C.1: Conceptual Grading Plan*, there are no slopes of 15% or greater on-site. Slopes greater than 15% border the north and east boundaries of the parcel because of the raised roadway and UPRR tracks. The access point will be constructed on an offsite slope greater than 15%.

2. Hillside Development Zone

The Hillside Development Zone requirements are not applicable to the parcel.

Raised UPRR tracks north of the property boundary.

3. Disturbed, Revegetated, Natural Areas

a. Retained as Natural Open Space

The entirety of the riparian habitat, outside of the minor disturbances for access and drainage, will be undisturbed and retained as natural open space. A revegetated area will also be created in the northwest corner of the parcel which has potential for dual use as a retention basin for water harvesting. See *Exhibit II.C.1: Conceptual Grading Plan*.

b. Revegetated

Plant species disturbed in the riparian area as part of construction will be revegetated. Furthermore, the plan will comply with all codes and ordinances requiring revegetation.

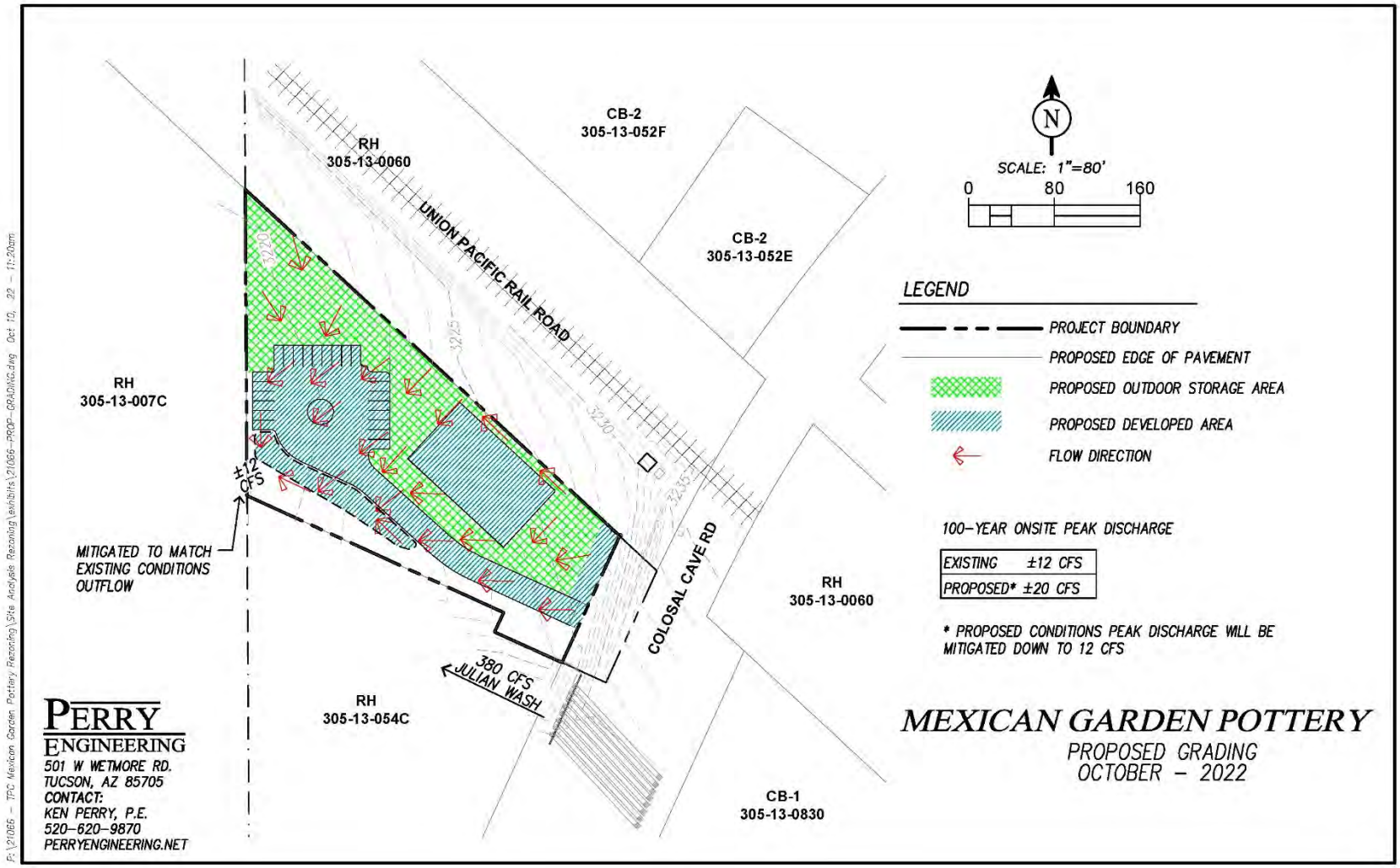
c. Graded or Disturbed

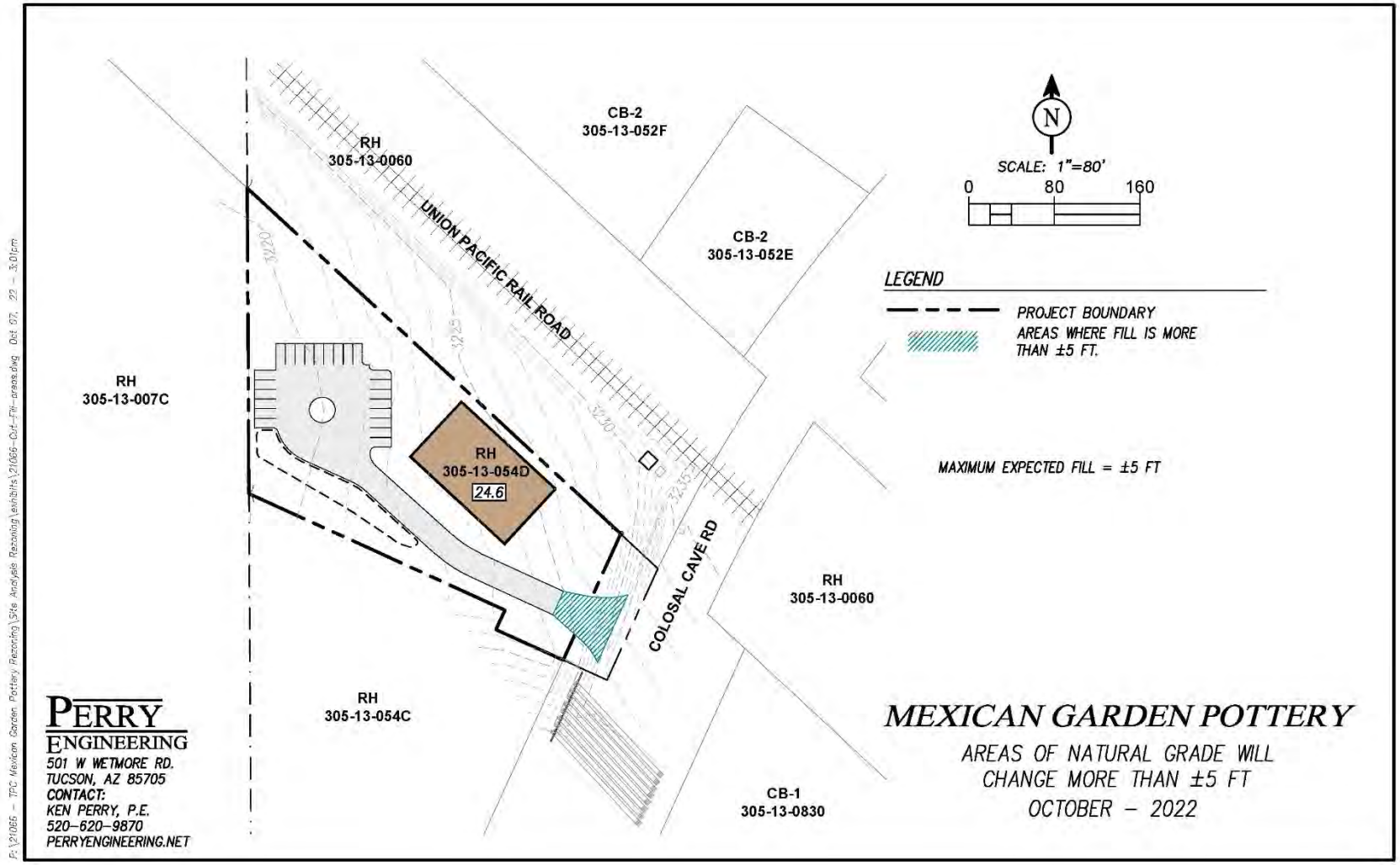
The site will be graded or disturbed during development. The only undisturbed areas on the parcel will be the riparian habitat except as shown in the PDP.

4. Changes to Natural Grade

The parcel's natural grade change will be equal to or less than 5 feet, with the exception of the access point onto Colossal Cave Road where the driveway will be built up to the elevation of the road. See *Exhibit II.C.4: Areas of Natural Grade Change*.

Exhibit II.C.1: Conceptual Grading Plan




CB-2
305-13-052F
RH
305-13-0060
UNION PACIFIC RAIL ROAD
CB-2
305-13-052E
N
SCALE: 1"=80'
0
80
160
LEGEND
PROJECT BOUNDARY
AREAS WHERE FILL IS MORE THAN ±5 FT.
RH
305-13-007C
RH
305-13-054D
24.6
MAXIMUM EXPECTED FILL = ±5 FT
COLOSAL CAVE RD
RH
305-13-0060
RH
305-13-054C
CB-1
305-13-0830
PERRY
ENGINEERING
501 W WETMORE RD.
TUCSON, AZ 85705
CONTACT:
KEN PERRY, P.E.
520-620-9870
PERRYENGINEERING.NET
MEXICAN GARDEN POTTERY
AREAS OF NATURAL GRADE WILL CHANGE MORE THAN ±5 FT
OCTOBER – 2022

D. Hydrology

1. Post-Development On-Site Hydrology

a. Washes to Be Left Natural

In the post-development condition, there will be no washes left natural within the portion of the project site that is actively developed. In this area, there are no readily discernable washes in the existing condition. Along the southwest boundary of the project site, which is not included in the active development area, conveyance areas (Julian Wash) will be left natural to the extent possible to maximize continued stormwater conveyance in this area and to minimize disturbance of the mapped riparian area in this location.

b. Regulatory Floodplains

The single regulatory floodplain is associated with the Julian Wash, along the southwest property boundary. The estimated 1% peak discharge is 380 cfs at Colossal Cave Road. At this time, the 1% floodplain has been estimated roughly using Manning's cross sections based on the 1998 PAG topography available at the MapTucson GIS resource. Please see *Exhibit II.E.1: Proposed Hydrology*. During the design and permitting phase, the regulatory floodplain will be determined using the Army Corps of Engineers water surface modeling program, HEC-RAS.

c. Erosion Hazard Setbacks

The erosion hazard setback in the post-development condition will be along the southwest limits of the driveway and parking area. Erosion control measures will be put in place along the edges of these driveway and parking areas in order to move the EHS from its current location to this new location.

d. Pima County Regulated Riparian Habitat

There is mapped and regulated riparian habitat associated with the Julian Wash flow path on and adjacent to the project site. It is identified as Xeroriparian 'C'. As much of this riparian area as possible will remain undisturbed in the post-development condition.

e. Proposed Drainage Structures

Stormwater conveyance will be handled within the driveway, parking, and landscape areas of the proposed development. A detention basin may be constructed in the northwest corner of the site in order to mitigate increases in stormwater outflow from the site. Any detention basins constructed with the project will feature low flow pipe and/or weir

outlet structures. Please see *Exhibit II.E.1: Proposed Hydrology*.

Julian Wash drainage structure under Colossal Cave Road that touches southeast property

f. Cross Drainage Structures

There are no cross-drainage structures currently proposed in the physical layout of the project site. The only cross drainage structure in the vicinity of the project site is the aforementioned 8-4'x2.4' RCPA under Colossal Cave Road pictured above.

g. Floodplain Encroachment and Erosion Protection

There will be floodplain encroachment into the Julian Wash floodplain. The appropriate erosion protection associated with this floodplain encroachment will be determined during this project's design and permitting phase.

h. Storm Drains

Storm drains are not proposed as a means of stormwater conveyance at the project site. Instead, stormwater conveyance through the project site will be achieved through site grading within the proposed driveway, parking, and landscape areas. Accordingly, no inlets, outlets, or pipe alignments will be added in the forthcoming project site design.

i. Easements Conflicting with Drainage Design

Because it appears that there are no existing easements within the project site, there will be no conflicts with drainage design due to the presence of easements.

j. Streets, Lots, and Building Pads

Please see *Exhibit II.E.1: Proposed Hydrology* for conceptual post-development hydrology. The streets, lots, and building pads shown thereon will be accounted for in the determination of the post-development hydrology.

2. Preliminary Integrated Water Management Plan (PIWMP)

See *Appendix B*.

3. Proposed Hydrology

a. Response to Constraints and Opportunities

The detention/retention basin proposed on *Exhibit II.E.1: Proposed Hydrology* is placed in a location where it can convey on-site stormwater, while providing as much conveyance area as possible for the Julian Wash. This proposed detention basin location is the northwest corner of the project site. The conveyance area for the Julian Wash is along the entire southwest border of the project site.

b. Encroachment into Flood Control Resource Areas

There will be encroachment into Flood Control Resource Areas as a result of this project. These resources are the Julian Wash floodplain and the mapped Xeroriparian 'C' habitat. The encroachment will be minimized to the extent possible. Without this encroachment, the project area becomes less viable to the point that development may not be possible.

Xeroriparian 'C' habitat immediately adjacent to the Julian Wash Culvert near the southeast property corner

c. Discharges Leaving the Site

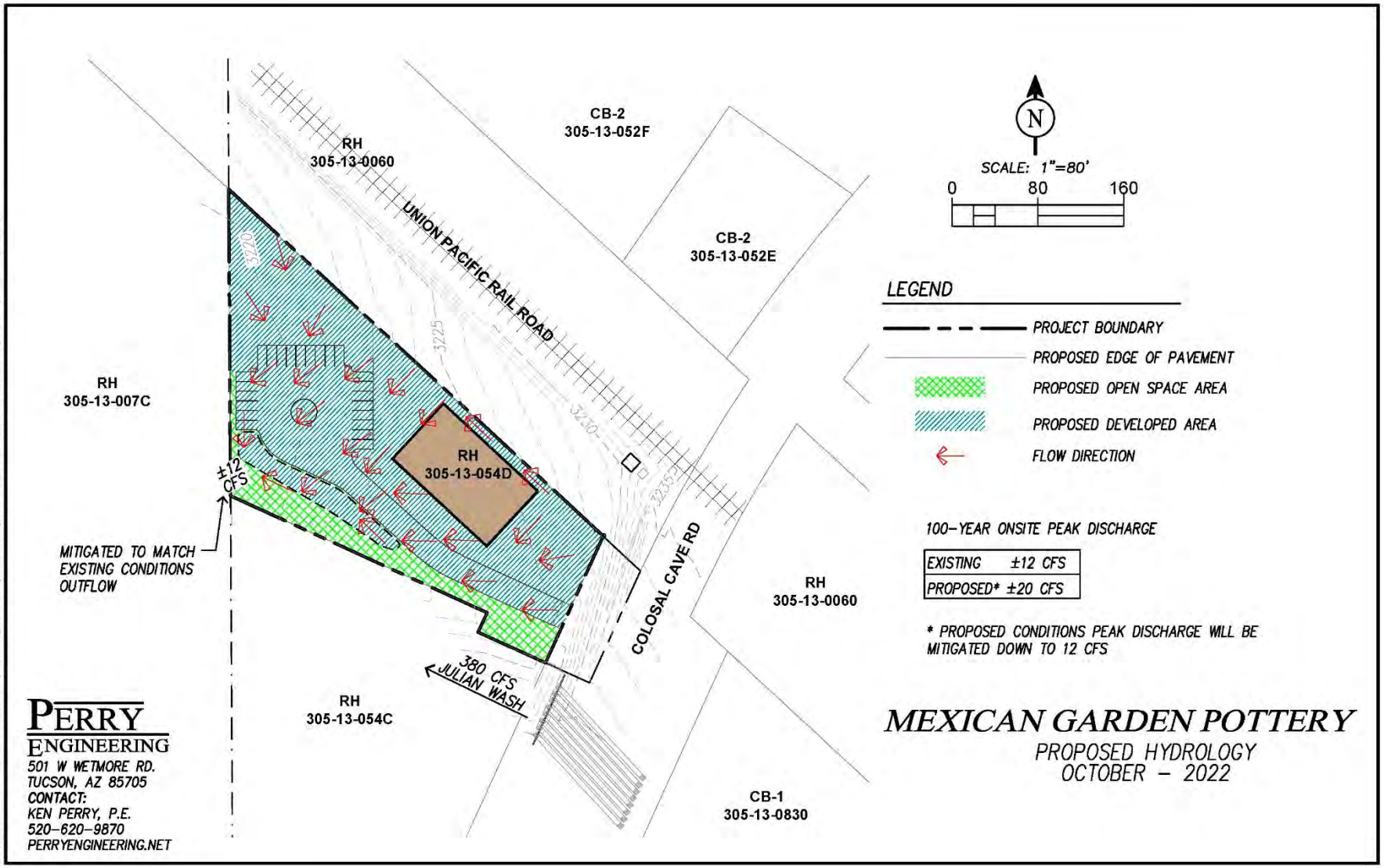
Please see *Exhibits I.C.1: Existing Hydrology and II.E.1: Proposed Hydrology* to compare the discharges leaving the site in the existing and the post-development conditions. The proposed conditions discharge was not reduced from the existing conditions discharge, as this is a balanced basin per Pima County.

d. Mitigation of Drainage and Erosion Problems

There are no known drainage or erosion problems existing at the project site. There are also no such known problems adjacent to the project site.

e. Overall Effect on Drainage Pattern of the Site

The proposed development at the project site will not fundamentally change the drainage patterns in the area. This includes both magnitudes and locations of discharges. Although there will be some minor changes interior to the project site, the general drainage scheme already existing at the project site will be maintained.


CB-2
305-13-052F
RH
305-13-0060
UNION PACIFIC RAIL ROAD
CB-2
305-13-052E
RH
305-13-007C
RH
305-13-054D
12 CFS
MITIGATED TO MATCH
EXISTING CONDITIONS
OUTFLOW
COLOSAL CAVE RD
RH
305-13-0060
380 CFS
JULIAN WASH
RH
305-13-054C
CB-1
305-13-0830
N
SCALE: 1"=80'
0
80
160
LEGEND
PROJECT BOUNDARY
PROPOSED EDGE OF PAVEMENT
PROPOSED OPEN SPACE AREA
PROPOSED DEVELOPED AREA
FLOW DIRECTION
100-YEAR ONSITE PEAK DISCHARGE
EXISTING ±12 CFS
PROPOSED* ±20 CFS
* PROPOSED CONDITIONS PEAK DISCHARGE WILL BE MITIGATED DOWN TO 12 CFS
MEXICAN GARDEN POTTERY
PROPOSED HYDROLOGY
OCTOBER - 2022
PERRY
ENGINEERING
501 W WETMORE RD.
TUCSON, AZ 85705
CONTACT:
KEN PERRY, P.E.
520-620-9870
PERRYENGINEERING.NET

E. Biological Resources

1. Anticipated Impacts to Biological Resources

The parcel is outside of the Conservation Lands System, and no Saguaro or Ironwood are present on-site. The entirety of the parcel is in the Pima Pineapple Cactus Priority Conservation Area, but no Pima Pineapple cacti were observed on-site. Should Pima Pineapple cacti be found during the development plan process, mitigation standards will be applied according to Pima County and Federal requirements. The property is not within Needle-spined pineapple cactus habitat and ,they are not anticipated to be found on-site.

F. Landscape, Bufferyards, and Visual Mitigation

1. Landscape Bufferyard Plan

The only required landscape buffer is adjacent to the scenic route of Colossal Cave Road along the parcel's eastern boundary. Here, a 25-foot buffer with open fence will be provided.

Table II.F.1 displays bufferyard requirements per Chapter 18.73.040 of the Pima County Code of Ordinances and proposed bufferyards and screening for the project.

Table II.F.1: Buffer and Screening Plan

Parcel Boundaries (adjacent zone/use)	Required Bufferyard	Provided Bufferyard	Provided Screening
North – RH (UPRR)	D_a	None	None
South – RH (Vacant)	D_a	None	None
East – Scenic Route	D	25 feet	40-inch Open Fence
West – RH (Vacant)	D_a	None	None

2. Landscape Bufferyard Conflicts

There are no bufferyard conflicts.

3. Vegetation Transplanted On-Site

A site visit in May of 2022 revealed a majority of the property is comprised of creosote with a mix of Palo Verde and Mesquite closer to the southern property boundary where the Xeroriparian 'C' habitat is located. It is anticipated that a majority of the riparian habitat will be preserved, however, mitigation and subsequent transplanting of required specimen will be relocated to areas

where adequate space is available to ensure proper growth habits continue through the life of said specimen.

4. Mitigation of Visual Impacts

As shown on the PDP and discussed throughout this document, Mexican Garden Pottery will be a boutique-style store with outdoor display and sales. The siting of the proposed building is adjacent to the northern property boundary and located near the center of the display area to minimize visual impacts from adjacent properties. The building and site will utilize architectural features representative of the surrounding area and pay homage to the history of Vail. Additionally, a twenty-five-foot landscape buffer will be provided adjacent to Colossal Cave Road and ,every effort to preserve the riparian habitat to the south will be made. The overall style of the development, the architectural treatments, and the use of vegetative material will ensure this proposal does not hinder the visual aesthetic of the area.

5. Significant Vegetation

There is no significant vegetation found on-site.

G.Transportation

1. Proposed Ingress/Egress

There is a single proposed full-access driveway for the property along Colossal Cave Road that will be constructed to applicable Pima County driveway standards. It is not anticipated to impact the drainage easement located in the southeast property corner.

2. Distances to Access Points

The proposed access point to the site along Colossal Cave Road sits 400 feet north of driveways on both the east and west sides of the street. The Vail Post Office driveway to the south aligns with the Old Vail Station driveway across Colossal Cave Road.

3. Offsite Road Improvements

There are no offsite road improvements necessary to serve the parcel.

4. Average Daily Trips and Level of Service

The project is expected to generate 16 morning peak hour weekday trips and 21 evening peak hour weekday trips. The Saturday peak hour is projected to generate 33 trips. In total, the project is estimated to generate 190 weekday trips and 215 Saturday trips. The Level of Service for Colossal Cave Rd is currently graded D, and the

threshold for LOS D will not be exceeded by the addition of this project.

5. Concurrency

The 2023 projected Average Daily Traffic for Colossal Cave Road is 11,892 without the project. With the project, the Average Daily Traffic increases by 133 to 12,025. The current Level of Service D for the roadway segment is 12,635. This means that with the project, Average Daily Traffic would need to increase by 610 trips before there is a decline in service for Colossal Cave Road.

6. Bicycle and Pedestrian Pathways

No bicycle or pedestrian pathways are to be constructed as part of the development plan. The existing shared-use-path will have ramps constructed at the edges of the driveway returns.

7. On-site Street System

The property will have a paved access point and lane to the planned parking area. The parking area will transition to gravel from the paved access lane.

8. Traffic Impact Analysis

Please see Traffic Memorandum prepared by M Esparza Engineering and submitted under separate cover.

H. On-Site Wastewater Treatment and Disposal

1. On-Site Wastewater Treatment/ Disposal Facilities

a. Reasons for Not Connecting to Sewer

The nearest connection to the existing sewer network is located over a half-mile north of the parcel. Connection to existing sewer infrastructure will require boring underneath two UPRR lines, which is highly cost-prohibitive. As a retail business, the number of fixtures will be modest, limited to restrooms and handwashing sinks. Therefore, wastewater output will be minimal. Additionally, all the nearby commercial development, single-family residences, and Acacia Elementary School located south of the UPRR tracks utilize septic.

b. Soil Evaluations

The Natural Resources Conservation Service soils map shows that the majority of the parcel is located in the Mohave-Sahuarita-Cave soil type. This soil type is defined by the *NRCS Soil Survey of Pima County, Arizona, Eastern Part* as a deep and well-drained soil with moderately slow permeability and high water capacity. It is most commonly used for homesites and urban development. Additionally, the existing use of

septic in the area indicates adequate soil requirements are available.

I. Sewer

1. Existing Public Sewer

The site will not connect to the existing public sewer system. A septic system will be installed for this project. See *Exhibit II.I.1 Existing Sewer Network*.

2. Method of Sewer Service

The site will use a septic system.

3. Site Constraints

The Union Pacific Railroad to the north of the parcel proves to be a significant constraint to an extension of the sewer network to the parcel. To connect the parcel to the sewer network, the sewer would need to be extended more than a half-mile and would require boring under both lines of the UPRR.

Exhibit II.I.1 Existing Sewer Network

J. Water

As shown in *Exhibit II.J.1*, the Vail Water Company has provided an assured water supply letter for this project. Please refer to *Appendix B: Preliminary Integrated Water Management Plan* for water conservation measures that will be employed as part of this project.

Exhibit II.J.1: Water Letter

Vail Water Company

RE: #305-1305-4D

SUBJECT: Assured Water Supply

DATE: May 18, 2022

Water Supply
This development lies within the Certification of Convenience and Necessity of Vail Water Company. Vail Water Company has been designated by the State of Arizona, Department of Water Resources, as having a designation of Assured Water Supply. As with all properties within its CC&N, Vail Water Company would meet your water needs under existing zoning. Vail Water Company, at this time, has a 100 year assured water supply.

Water Service
The approval of water meter applications and service agreements is subject to the availability of water service at the time an application is made. The developer shall be required to submit a water master plan identifying but not limited to:

Water Use
Fire Flow Requirements
Offsite / Onsite Water Facilities
Loops and Proposed Connection Points to Existing Water System
Easements / Common Areas

Any specific area plan fees facility fees and/or other needed facilities' costs are to be paid by the developer.

If the existing water system is not capable of meeting the requirements of the proposed development, the developer shall be fiscally responsible for modifying/enhancing the existing water system to meet those needs.

This letter shall be null and void one year from the date of issuance.

Issuance of this letter is not to be construed as agency approval of a water plan or as containing construction review comments relative to conflicts with existing water lines and the proposed development.

If you have any questions, please call Vail Water Company at (520) 647-3679.

Sincerely,

Manny Oros
Operations Manager
Vail Water Company

14155 E. Vía Rancho del Lago Blvd. • P.O. Box 100 • Vail, Arizona 85641-0100 • (520) 647-3679 • Fax (520) 647-3825

K. Cultural Resources – Archaeological and Historical Sites

1. Mitigation Measures for Protection of Resources

According to the Pima County Office of Sustainability and Conservation, there are no necessary additional surveys required for protection of potential cultural resources. The Office of Sustainability and Conservation requested that the owner consider including interpretive design elements to inform visitors of Vail's history and that the site was a former railroad refuse pit for UPRR.

L. Recreation

Parks and trails are not proposed as part of this project.

M. Environmental Quality

1. Control of Dust Pollution

To control dust pollution created from activity on the parcel, gravel or another similar surfacing material will be used to stabilize dust per Pima County Standards.

N. Agreements

1. Agreements with Neighboring Properties

There are no agreements with neighboring properties.

III. APPENDICES

A. Arizona Game and Fish Report

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:
MCS-01

Project Description:
MCS-01 Rezoning

Project Type:
Development Within Municipalities (Urban Growth), Commercial/industrial (mall) and associated infrastructure, New construction

Contact Person:
Garrett Aldrete

Organization:
The Planning Center

On Behalf Of:
CONSULTING

Project ID:
HGIS-16832

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

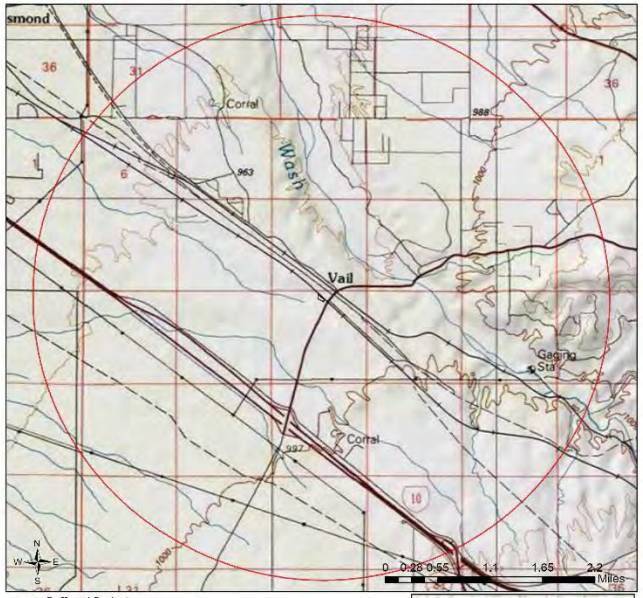
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Departments review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.

MCS-01

USA Topo Basemap With Locator Map



Buffered Project Boundary

Project Boundary

Project Size (acres): 1.63

Lat/Long (DD): 32.0466 / -110.7142

County(s): Pima

AGFD Region(s): Tucson

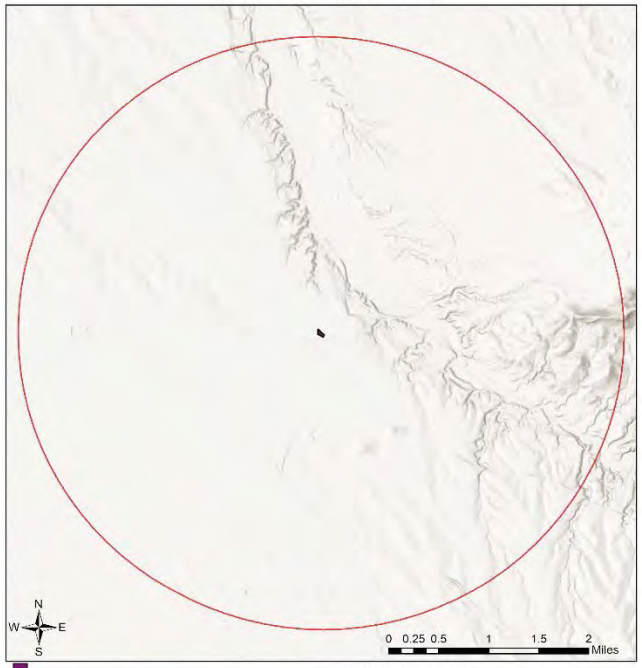
Township/Range(s): T16S, R16E

USGS Quad(s): VAIL

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

MCS-01

Web Map As Submitted By User



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MCS-01

Important Areas

Buffered Project Boundary

Project Boundary

Important Bird Areas

Critical Habitat

Pinal County Riparian

Important Connectivity Zones

Wildlife Connectivity

Project Size (acres): 1.63

Lat/Long (DD): 32.0466 / -110.7142

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T16S, R16E

USGS Quad(s): VAIL

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, TCMA, Intermap, and the GIS user community
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

MCS-01

Township/Ranges and Land Ownership

- Buffered Project Boundary
- Project Boundary
- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge
- Township/Ranges

Project Size (acres): 1.63

Lat/Long (DD): 32.0466 / -110.7142

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T16S, R16E

USGS Quad(s): VAIL

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Agosia chrysogaster chrysogaster	Gila Longfin Dace	SC		S		1B
Bat Colony						
Camptostoma imberbe	Northern Beardless- Tyrannulet		S			
Choeronycteris mexicana	Mexican Long-tongued Bat	SC	S	S		1C
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S		1A
Coryphantha scheeri var. robustispina	Pima Pineapple Cactus	LE			HS	
Danaus plexippus	Monarch	C		S		
Echinomastus erectocentrus var. erectocentrus	Needle-spined Pineapple Cactus	SC			SR	
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1A
Heloderma suspectum	Gila Monster					1A
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE				1A
Terrapene ornata luteola	Desert Box Turtle			S		1A

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/

.

No Special Areas Detected
No special areas were detected within the project vicinity.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aix sponsa	Wood Duck					1B
Amazilia violiceps	Violet-crowned Hummingbird		S			1B
Ammospermophilus harrisii	Harris' Antelope Squirrel					1B
Anthus spragueii	Sprague's Pipit	SC				1A
Aquila chrysaetos	Golden Eagle	BGA		S		1B
Aspidoscelis stictogramma	Giant Spotted Whiptail	SC	S			1B
Aspidoscelis xanthonota	Red-backed Whiptail	SC	S			1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Buteo swainsoni	Swainson's Hawk					1C
Calypte costae	Costa's Hummingbird					1C
Chilomeniscus stramineus	Variable Sandsnake					1B
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus tigris	Tiger Rattlesnake					1B

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Cynanthus latirostris	Broad-billed Hummingbird		S			1B
Dipodomys spectabilis	Banner-tailed Kangaroo Rat			S		1B
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	PT	S	S		1B
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC, BGA	S	S		1A
Heloderma suspectum	Gila Monster					1A
Hypsiglena sp. nov.	Hooded Nightsnake					1B
Incilius alvarius	Sonoran Desert Toad					1B
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leopardus pardalis	Ocelot	LE				1A
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1A
Lepus alleni	Antelope Jackrabbit					1B
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micrathene whitneyi	Elf Owl					1C
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tyrannulus	Brown-crested Flycatcher					1C
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Oreoscoptes montanus	Sage Thrasher					1C
Oreothlypis luciae	Lucy's Warbler					1C
Panthera onca	Jaguar	LE				1A
Peucaea carpalis	Rufous-winged Sparrow					1B
Phrynosoma solare	Regal Horned Lizard					1B
Progne subis hesperia	Desert Purple Martin			S		1B
Setophaga petechia	Yellow Warbler					1B
Sphyrapicus nuchalis	Red-naped Sapsucker					1C
Spizella breweri	Brewer's Sparrow					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Thomomys umbrinus intermedius	Southern Pocket Gopher					1B

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Toxostoma lecontei	LeConte's Thrasher			S		1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Callipepla squamata	Scaled Quail					1C
Odocoileus hemionus	Mule Deer					
Patagioenas fasciata	Band-tailed Pigeon					1C
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Development Within Municipalities (Urban Growth), Commercial/Industrial (mall) and associated infrastructure, Newconstruction

Project Type Recommendations:
Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

Based on the project type entered, coordination with Arizona Department of Water Resources may be required (https://new.azwater.gov/).

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:
HDMS records indicate that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of your project area. Please contact:
Arizona Department of Agriculture
1688 W Adams St.
Phoenix, AZ 85007
Phone: 602.542.4373
https://agriculture.az.gov/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf starts on page 44

HDMS records indicate that one or more Listed, Proposed, or Candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at https://www.fws.gov/office/arizona-ecological-services or:

Phoenix Main Office
9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

HDMS records indicate that Sonoran Desert Tortoise have been documented within the vicinity of your project area. Please review the Tortoise Handling Guidelines found at: https://www.azgfd.com/wildlife/nongamemanagement/tortoise/

B. Preliminary Integrated Water Management Plan

I-2b	All toilets have a maximum flow rate of 1.1 gallons per flush, or flush valves have a maximum flow rate of 1.1 gallons per flush (e.g. EPA Watersense ™)	4
I-4	Use waterless urinals throughout the development.	2
O-4a	Use only native and/or drought-tolerant, low-water use plants for landscaping plantings with a Water Use of 1 or 2 The list of drought tolerant and native low-water use plants appropriate for Pima County is available at:http://www.azwater.gov/azdwr/WaterManagement/AMAs/documents/2010TAMA_apha_botanical_PLANTLIST.pdf.	2
O-5	Prohibit the use of non-native plants and turf grasses.	1
O-6a	Design for pervious driveway and walkway surfaces, 2 points per 10,000 square feet.	2
O-6b	Install an irrigation system with the following components: 1) Weather based irrigation controller or soil moisture sensor-based irrigation controller (e.g. EPA Watersense ™). Controller shall have two watering schedules posted at the controller: a) for the initial grow-in period and b) for the established landscape. Controller shall be set to irrigate during the hours of 10 p.m. to 8 a.m.; 2) Turf spray heads, if installed, shall only be used for turf and shall achieve a lower quarter distribution uniformity (DULQ) of 65 percent or greater and contain check valves to prevent gravity drainage of water from heads; 3) Separate sprinkler zones for beds, with plants grouped based on watering needs (hydro zoning); 4) Drip irrigation for all non-turf planting beds.	2.5
O-7b	Use only native and/or drought-tolerant, low-water use plants for 50% of Landscape Area* landscaping plantings with a Water Use of 1 or 2 designed to be self-sustaining based upon water harvesting.	3
O-8	Complete a Parking Area Reduction Plan	3
Total		19.5

References

Rincon/Southeast Subregional Plan, Pima County, Adopted December 1995, Amended June 7, 2005

Map Tucson, City of Tucson GIS, 2021

Mexico Lindo Artesanias, http://www.mexicolindoa.com/talavera-pottery.html

PimaMaps, Pima County GIS, 2021

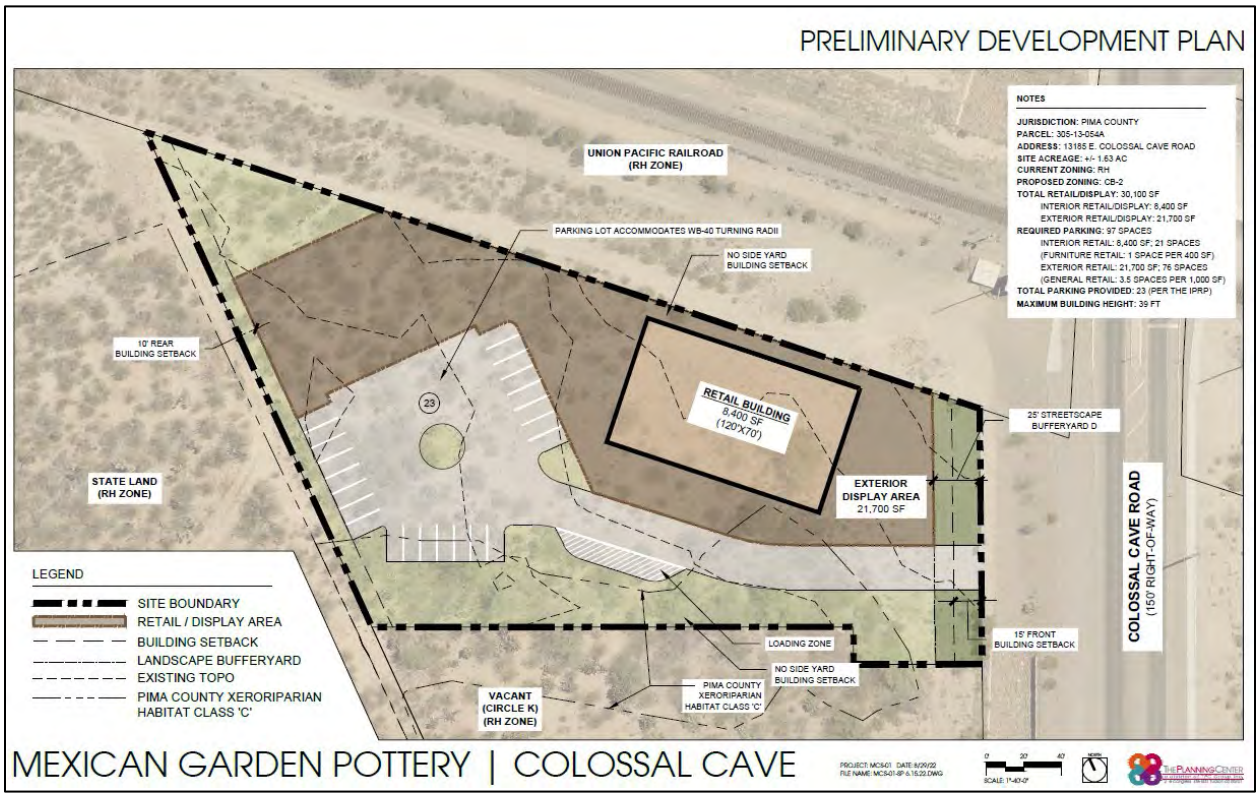
Pima County GIS, 2021

Pima Prospers, Pima County, Arizona, Adopted August 2015

Sloat Gardens, https://i0.wp.com/www.sloatgardens.com/wp-content/uploads/2014/10/talavera-style.jpg?ssl=1 https://sloatgardens.com/november-talavera-style-pottery-truckload-sale/

Mexican Pottery Store – Colossal Cave Road

Traffic Memorandum



Prepared for submittal to:

Pima County, AZ

M Esparza Engineering, LLC
2934 W. Salvia Drive
Tucson, AZ 85745

July 13, 2022
Updated August 29, 2022
November 1, 2022

Mexican Pottery Store – Colossal Cave Road
Traffic Memorandum

Prepared for submittal to:

Pima County, Arizona

Prepared by:
M Esparza Engineering, LLC
2934 W. Salvia Drive
Tucson, AZ 85745

Phone: (520) 207-3358
Project No. 2021.36
Marcos Esparza, P.E., Principal

July 13, 2022
Updated August 29, 2022
Updated November 1, 2022

Table of Contents

List of Exhibits

1. Introduction and Executive Summary

This traffic memorandum (TM) supports a proposed 8,400 square foot retail pottery store and identifies the transportation-related impacts of the project. The project is located west of Colossal Cave Road and the Union Pacific Railroad tracks as shown in the Project Location exhibit (Exhibit 1). The project address is 13185 East Colossal Cave Road. Tucson, Arizona. The site is currently vacant.

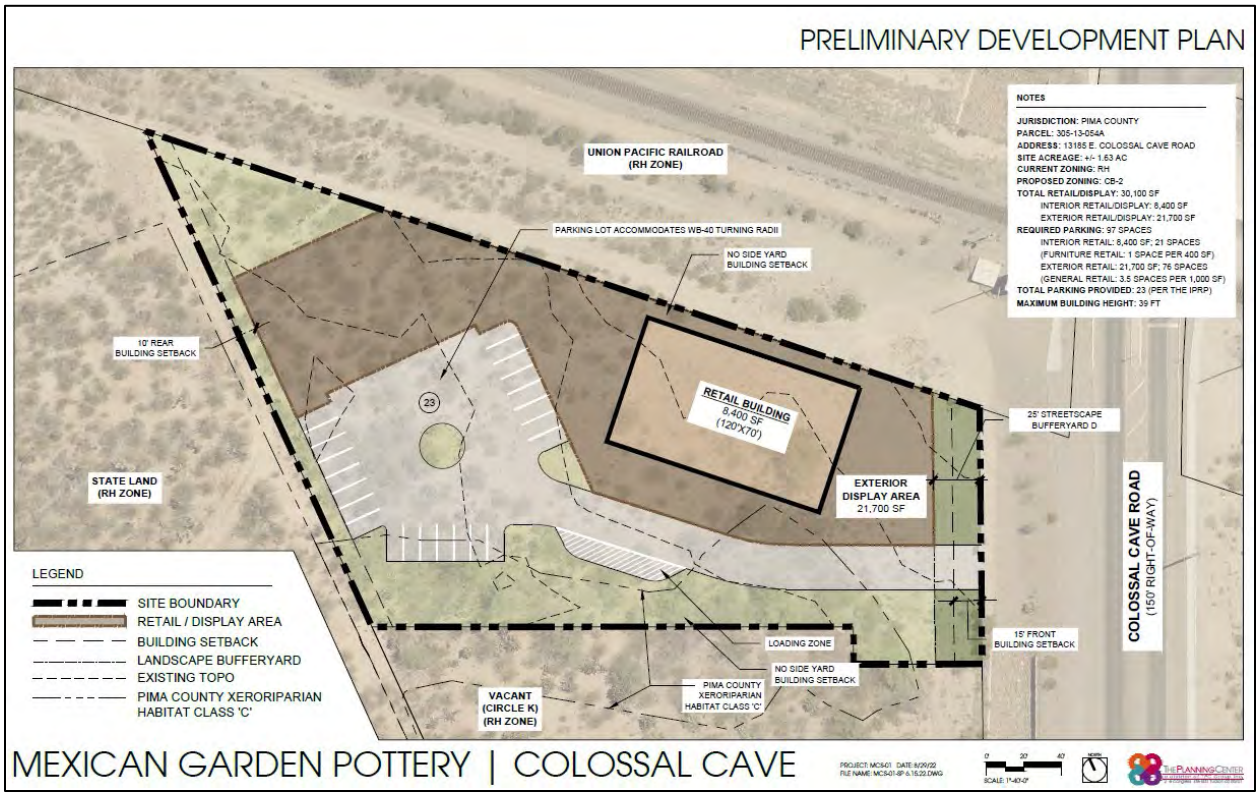
Exhibit 1 Site Location

Source: Pima County GIS

Development Description

A development plan (see Exhibit 2) shows an 8,400 square foot building that will be a showroom for Mexican pottery retail sales. The owner also wishes to use 21,700 square feet of the non-enclosed area within the property for outdoor sales. As part of the improvement, the development plans to provide between twenty and twenty-five on-site parking spaces. The project owner has a Mexican pottery store at 2901 N. Oracle Road in Tucson, Arizona.

Exhibit 2 Preliminary Site Plan



Source: The Planning Center

Access to the project will be via one new driveway on Colossal Cave Road. The access will be a full access driveway. There is an existing two-way left turn lane on Colossal Cave Road.

Trips generated by the Project have been estimated using the rates published in the *ITE Trip Generation Manual, 11th Edition* for land use category 890 – Furniture Store. We believe that this land use is closest in type to the pottery store use. Based on the average rates generated by a land use of this size, the trip generation varies depending on the variable used, with a range between 16-25 weekday peak hour trips, 33 Saturday peak hour trips, 190 weekday trips and 215 Saturday trips.

This TM along with other documents supporting the project's development plan application is subject to approval by the County. This study has been prepared in accordance with Pima County's *Subdivision and Development Street Standards*, which provides guidance on conducting traffic studies within Pima County. The project is a small-scale development expected to generate fewer than 100 trips during the peak hour. Accordingly, this report is a Traffic Memorandum. For the purpose of this study, the project is expected to be built out by 2023.

The specific study objectives are:

- Evaluate the impact of the project on existing intersections adjacent to or near the project site including:
  - Colossal Cave Road/Project Access (Unsignalized)
- Evaluate the impact of the project on the following streets:
  - Colossal Cave Road
- Evaluate the effects the proposed development will have on pedestrian, bicycle, and transit activity in the area.

- Provide recommendations to mitigate (if necessary) undesirable traffic conditions that the project may create.

Principal Findings

The project is located west of Colossal Cave Road and the Union Pacific Railroad tracks as shown in the Project Location exhibit (Exhibit 1). The project address is 13185 East Colossal Cave Road. Tucson, Arizona. The site is currently vacant. For the peak hour of the generator, the project will generate:

- 16 morning peak weekday AM generator hour trips,
- 25 evening peak weekday PM generator hour trips,
- 33 Saturday peak generator hour trips
- 190 weekday trips
- 215 Saturday trips

Access is shown on the plan at one location on Colossal Cave Road. The access will be a full-access driveway. There is an existing two-way left turn lane on Colossal Cave Road in front of the project.

Based on Pima County right turn lane warrant criteria, a southbound right turn lane is not warranted on Colossal Cave road at the project entrance.

The driveway meets Pima County's minimum driveway spacing criteria for a 35-mph roadway.

Adequate sight distance meeting Pima County's requirements in the *Pima County Subdivision and Development Street Standards* at the project intersection must be provided.

All signs and pavement markings must conform to the *MUTCD* and Pima County requirements.

2. Proposed Development

Site Location and Site Plan

The project is located west of Colossal Cave Road and the Union Pacific Railroad tracks as shown in the Project Location exhibit (Exhibit 1). The project address is 13185 East Colossal Cave Road. Tucson, Arizona. The preliminary site plan is shown in Exhibit 2.

Land Use and Intensity

The land use is an 8,400 square foot building that will be a showroom for Mexican pottery retail sales. The owner also wishes to use 21,700 square feet of the non-enclosed area within the property for outdoor sales.

Site Access

Access is shown at one new driveway on Colossal Cave Road. The driveway will allow for full access.

Access Geometrics

The access will include one ingress lane and one egress lane, to be designed and constructed to Pima County standards for driveway design.

Development Phasing and Timing

For the purposes of this analysis, the project is projected to open around 2023.

3. Study Area Conditions

Study Area

The study area includes the project access on Colossal Cave Road as well as the segment of Colossal Cave Road near the project. An aerial photo is provided in Exhibit 3. Ground photos are provided in Exhibit 4.

Site Accessibility

The site will be accessed from Colossal Cave Road.

Existing and Future Area Roadway System

There are no planned projects in the vicinity of the project area.

Site Circulation

Site circulation will be as shown in the site plan.

Exhibit 3 Aerial Photo

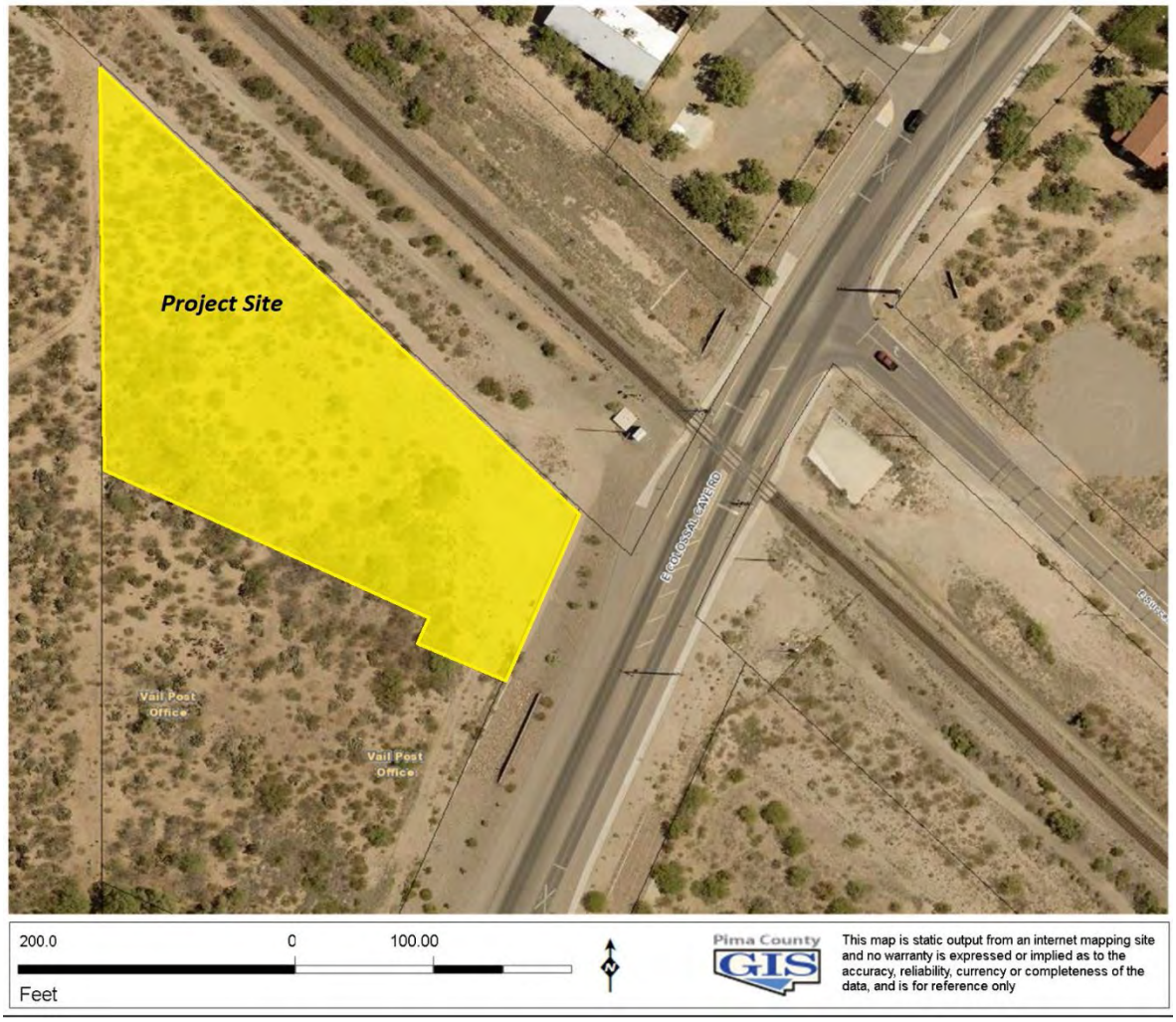


Exhibit 4 Ground Photos

Looking south on Colossal Cave Road

Looking north on Colossal Cave Road

4. Analysis of Existing Conditions

Physical Characteristics

Exhibit 5 is an inventory of the physical features and recorded volumes of the project area roadways.

Exhibit 5 Roadway Inventory – Existing Conditions

Roadway Segment	Lanes	Year of Recorded ADT	ADT	Speed Limit	Bike Route	Bus Route	Sidewalks
Colossal Cave Road	3	2021	11,430	35	Yes	No	On East Side, Multi-Use Path on West Side

Colossal Cave Road is a three-lane urban major collector in the vicinity of the project. It has a posted speed limit of 35 mph. There are bike lanes along both sides of the road. There is a sidewalk along the east side of the road and a multi-use path on the west side.

Transit/Bicycle/Pedestrian Facilities

There are bike lanes and sidewalk/multi-use path on each side of Colossal Cave Road.

Traffic Control Devices

There are two sets of railroad tracks crossing Colossal Cave Road just north of the project site and railroad crossing equipment and gates at these locations. The nearest signalized intersection is at the Mary Ann Cleveland Way/Colossal Cave Road intersection approximately 0.63 miles north of the project.

Traffic Volumes

The Pima Association of Governments' website has ADTs on Colossal Cave Road. The year 2021 ADT is 11,430 vehicles per day.

Level of Service

Level of service is a qualitative description of how well a roadway or intersection operates under prevailing traffic conditions based on traffic volumes and capacity. A grading system of A through F, similar to academic grades, is utilized. LOS A is free-flowing traffic, whereas LOS F is forced flow and extreme congestion. LOS D is generally accepted as the standard although LOS E is sometimes accepted in more congested areas. Segment performance is often overshadowed by intersection performance when signals are closely spaced.

Roadway Performance

Based on daily level of service thresholds from the Florida Department of Transportation *Generalized Annual Average Daily Volumes for Florida's Transitioning Areas and Areas over 5,000 not in Urbanized Areas, Table 2*, a two-lane roadway with a posted speed limit can carry up to approximately 12,569 vehicles per day (vpd) at LOS D. Therefore, based on recorded volumes shown in Exhibit 5, the daily volumes on Colossal Cave Road are below the daily LOS D threshold volumes.

Safety Related Deficiencies

Crash data for Colossal Cave Road between Mary Ann Cleveland Way and Dawn Drive were provided by the Arizona Department of Transportation. Recorded collision data from January 1, 2016, through December 31, 2020, are shown in a summary in Exhibit 6.

Crash rates over 1.0 crash per million vehicle-miles (MVM) for roadway segments usually indicate a need to review mitigating measures to reduce the rate.

Over the five-year period, there were nineteen segment related crashes on Colossal Cave Road between Mary Ann Cleveland Road and Dawn Drive, a 1.5-mile section. Fifteen were "rear-end" crashes, three were angle crashes and one was a single-vehicle crash. Sixteen were property damage only crashes, and three involved injuries. The five-year crash rate was 0.61 crashes per MVM.

The crash history indicates that there are no specific locations that would require mitigation to reduce high crash rates.

Exhibit 6 Roadway Segment Crash Rate Statistics

Colossal Cave Road, Mary Ann Cleveland Way to Dawn Drive							
Crash Type	**2016**	**2017**	**2018**	**2019**	**2020**	**Total**	**%**
Single Vehicle					1	1	**5%**
Angle	1	1			1	3	**16%**
Rear End	5	4	5	1		15	**79%**
Total	**6**	**5**	**5**	**1**	**2**	**19**	
Crash Rate (per MVM)	**0.96**	**0.80**	**0.80**	**0.16**	**0.32**	**0.61**	
Severity						**Total**	**%**
Bodily Injury	1	1	1			**3**	**16%**
Property Damage	5	4	4	1	2	**16**	**84%**
Note: MVM = Million Vehicle Miles							

5. Projected Traffic

Site Traffic Forecasting

Trip Generation

The future traffic from the project is estimated using the trip rates contained in the Institute of Traffic Engineers' *Trip Generation Manual,* 11th Edition. The number of trips generated is the mathematical product of land use intensity (building square footage, number of dwelling units, etc.) and the trip generation rate. The result is the total number of one-way trips (not round trips) expected to be generated by the project. These trips represent the number of vehicles estimated to enter and leave the project. The trips are based on trip generation estimates from fitted curve equations.

As there are no trip rate data for the land use "Pottery Store," we applied the trip rates for "Furniture Store."

Exhibit 7 shows the trip rates and estimated trip generation. Based on the average trip rates for the project land use, the project generates 190 weekday one-way trips, with 16 trips during the AM peak generator hour and 21 during the PM peak generator hour. On Saturday, the trip generation for the day is 190 trips per day and the trip generation for the peak generator hour is 215 trips per hour.

Exhibit 7 Trip Rates and Trip Generation

				Average Trip Rates									
			ITE	AM Generator		PM Generator		Avg Weekday		Saturday Peak Hour		Saturday	
Proposed Use	Unit	No.Units	Categ.	In	Out	In	Out	In	Out	In	Out	In	Out
Furniture Store	1000 SF GFA	30.10	890	0.52		0.70		6.30		1.1		7.15	
				62%	38%	51%	49%	50%	50%	54%	46%	50%	50%

			Trip Generation									
			AM Generator		PM Generator		Avg Weekday		Saturday Peak Hour		Saturday	
Proposed Use	Unit	No. Units	In	Out	In	Out	In	Out	In	Out	In	Out
Furniture Store	1000 SF GFA	30.10	16		21		190		33		215	
			10	6	11	10	95	95	18	15	108	108

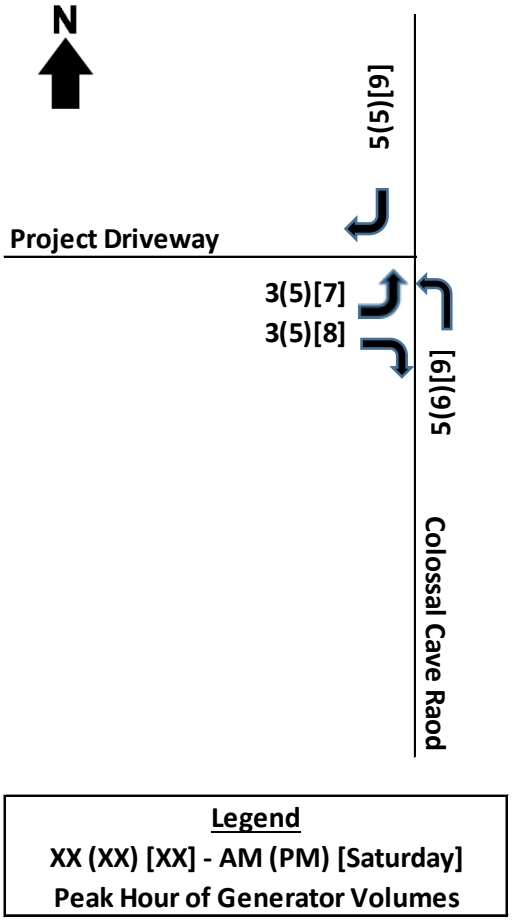
Trip Rates from Institute of Transportation Engineers' Trip Generation Manual, 11th Edition

The ITE *Trip Generation Manual* provides guidance on pass-by and diverted trip percentages for several land uses. However, there are no pass-by rates for this land use, and none were applied.

Trip Distribution and Assignment

We distributed the site traffic at the project driveway, equally to the north and south on Colossal Cave Road. The site trips at the project driveway are shown in Exhibit 8.

Exhibit 8 Site Trips



6. Traffic and Improvement Analysis

Level of Service Analysis

Roadway Performance

Exhibit 9 summarizes the new ADT and daily volume capacity (LOS D) of the roadway segment with and without the project in 2023.

The table show that based on the growth of 2%/year estimated for the background traffic, and the LOS D criteria found in FDOT's *2020 Generalized Annual Average Daily Volumes for Florida's Transitioning Areas and Areas over 5,000 not in Urbanized Areas, Table 2*, the 2023 no project and 2023 with project volumes will not exceed the theoretical daily service volume LOS D thresholds.

Exhibit 9 Future Roadway Volumes and Capacity

Roadway Segment	2023 No Project ADT*	Site Traffic	2023 ADT (With Project)	LOS D Threshold**	LOS D Threshold Volume Exceeded
Colossal Cave Road	11,892	190	12,082	12,569	No

*Assumed 2%/year growth

**FDOT Generalized Annual Average Daily Volumes, Table 2, 2020

Traffic Safety

Sight Distance

There do not appear to be any sight distance limitations from the proposed driveway location.

Turn Lane Analysis

A turn lane "warrant" is a justification for constructing a turn lane, based on traffic volumes at an intersection. Turn lanes are warranted based on these criteria when the peak hour turn lane volume exceeds a trigger based on the two-way daily volume (ADT, or Average Daily Traffic as indicated in the table) on the roadway.

Pima County's Subdivision and Development Street Standards provides turn lane warrant guidelines for County roadways with two or four lanes. The guidelines for right turn lane warrants for two-lane roadways are shown in Exhibit 10.

For the project access driveway on Colossal Cave Road, the highest inbound peak hour trip estimate is 18 inbound trips, which is projected to occur during the Saturday peak hour. It is reasonable to expect that the trips would be from both the north and the south, but even under the assumption that all inbound trips would be right turning vehicles from the north, there would need to be 960 vehicles comprising the major-road volume, represented in the x-axis of the graph. The projected weekday ADT on Colossal Cave Road is about 12,000 vpd (assumed to be higher than the Saturday ADT). Assuming a K factor or 0.08 and a directional distribution of 75%/25% during the peak hour with 75% being the southbound volume, the estimated peak hour southbound volume would be 12,000 X 0.08 X .75 = 720 vph. It is unlikely that the major road volume would reach 960 vph by the year 2023 and because of this, a right turn lane is not warranted at this location.

Pedestrian, Bicycle, and Transit Considerations

There are existing bicycle lanes along Colossal Cave Road. There are walking paths (sidewalk or multi-use paths) on the roadway. It is unlikely that patrons would bike or walk to this land use. No additional bicycle and pedestrian facilities are recommended along these roadways.

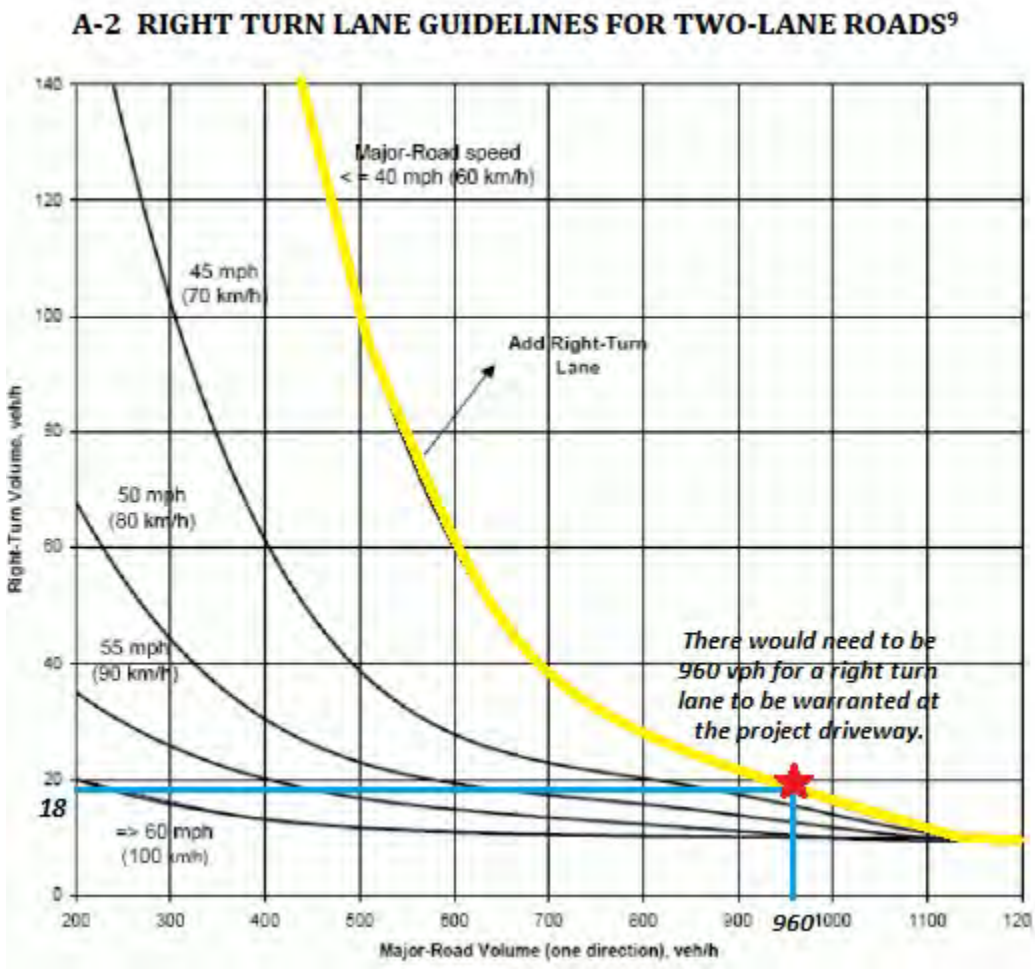
Queuing Analysis

Pima County requires an assessment of storage length estimates for intersection turn lanes based on anticipated traffic at study area intersections. The minimum turn lane length on a 35-mph roadway is 110 feet. Northbound left turns into the project will be from the existing two-way left turn lane on Colossal Cave Road. Access into other driveways south of the project are from this two-way left turn lane. There is about 400 feet driveway spacing from the project driveway to the next driveway to the south, allowing for a low potential for conflict between left turns into the project driveway and left turns into the closest driveway to the south on the east side of the road.

Travel Demand Management

There are no TDM elements associated with this project.

Exhibit 10 Right Turn Lane Warrant - 2 Lanes



7. Conclusions and Recommendations

The project is located west of Colossal Cave Road and the Union Pacific Railroad tracks as shown in the Project Location exhibit (Exhibit 1). The project address is 13185 East Colossal Cave Road. Tucson, Arizona. The site is currently vacant. For the peak hour of the generator, the project will generate:

- 16 morning peak weekday AM generator hour trips,
- 21 evening peak weekday PM generator hour trips,
- 33 Saturday peak generator hour trips
- 190 weekday trips
- 215 Saturday trips

Access is shown on the plan at one location on Colossal Cave Road. The access will be a full-access driveway. There is an existing two-way left turn lane on Colossal Cave Road in front of the project.

Based on Pima County right turn lane warrant criteria, a southbound right turn lane is not warranted on Colossal Cave road at the project entrance.

The driveway meets Pima County's minimum driveway spacing criteria for a 35-mph roadway.

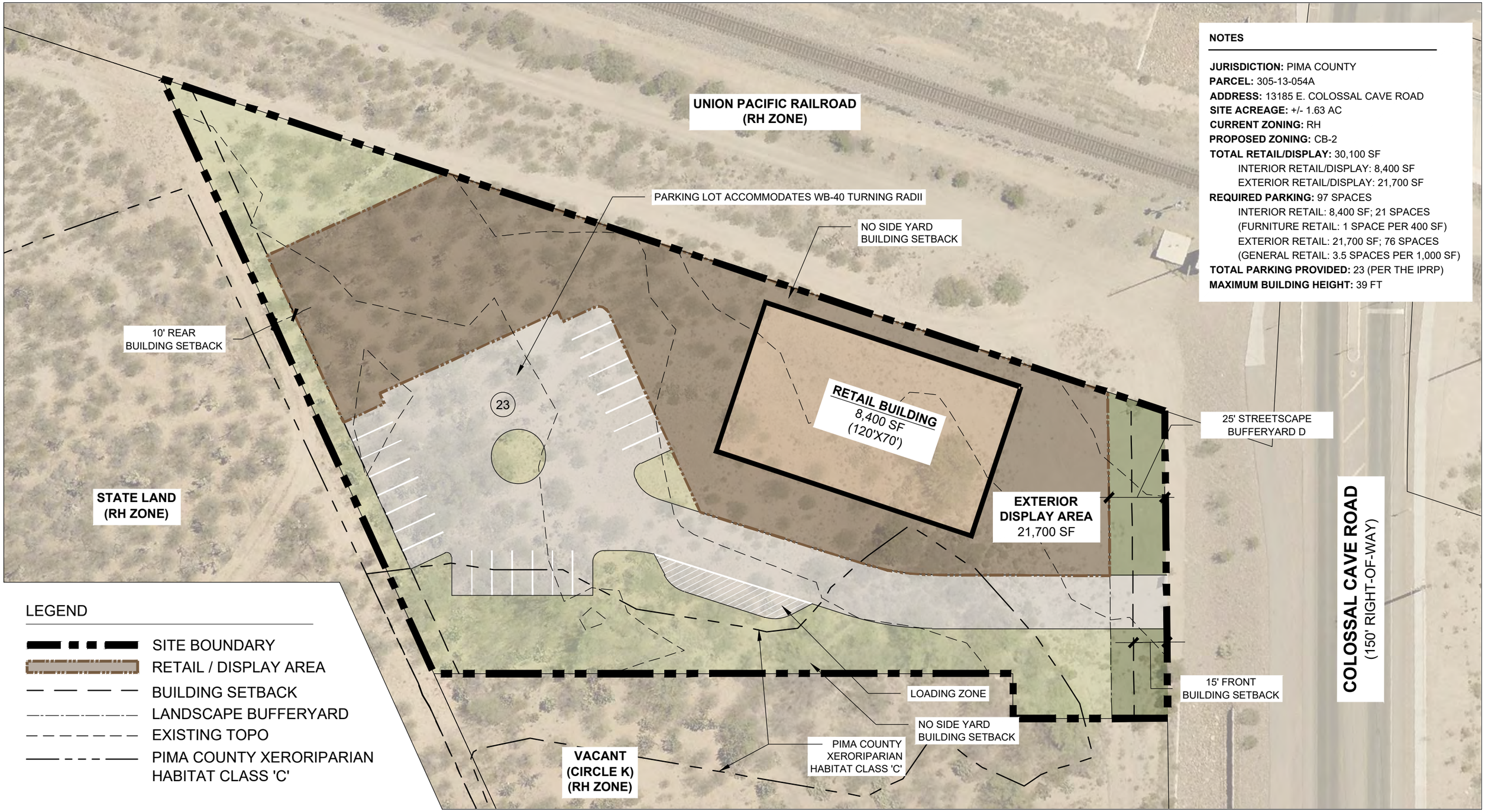
Adequate sight distance meeting Pima County's requirements in the *Pima County Subdivision and Development Street Standards* at the project intersection must be provided.

All signs and pavement markings must conform to the *MUTCD* and Pima County requirements.

APPENDIX

- Site Plan
- ITE Trip Generation Sheets

PRELIMINARY DEVELOPMENT PLAN



NOTES

JURISDICTION: PIMA COUNTY
PARCEL: 305-13-054A
ADDRESS: 13185 E. COLOSSAL CAVE ROAD
SITE ACREAGE: +/- 1.63 AC
CURRENT ZONING: RH
PROPOSED ZONING: CB-2
TOTAL RETAIL/DISPLAY: 30,100 SF
INTERIOR RETAIL/DISPLAY: 8,400 SF
EXTERIOR RETAIL/DISPLAY: 21,700 SF
REQUIRED PARKING: 97 SPACES
INTERIOR RETAIL: 8,400 SF; 21 SPACES
(FURNITURE RETAIL: 1 SPACE PER 400 SF)
EXTERIOR RETAIL: 21,700 SF; 76 SPACES
(GENERAL RETAIL: 3.5 SPACES PER 1,000 SF)
TOTAL PARKING PROVIDED: 23 (PER THE IPRP)
MAXIMUM BUILDING HEIGHT: 39 FT

LEGEND

- SITE BOUNDARY
- RETAIL / DISPLAY AREA
- BUILDING SETBACK
- LANDSCAPE BUFFERYARD
- EXISTING TOPO
- PIMA COUNTY XERORIPARIAN HABITAT CLASS 'C'

MEXICAN GARDEN POTTERY | COLOSSAL CAVE

PROJECT: MCS-01 DATE: 8/29/22
FILE NAME: MCS-01-SP 6.15.22.DWG

0' 20' 40'
SCALE: 1"-40'-0"

NORTH

THE PLANNING CENTER
A DIVISION OF TPC GROUP, INC.
2 E CONGRESS STE 600 TUCSON AZ 85701

Furniture Store
(890)

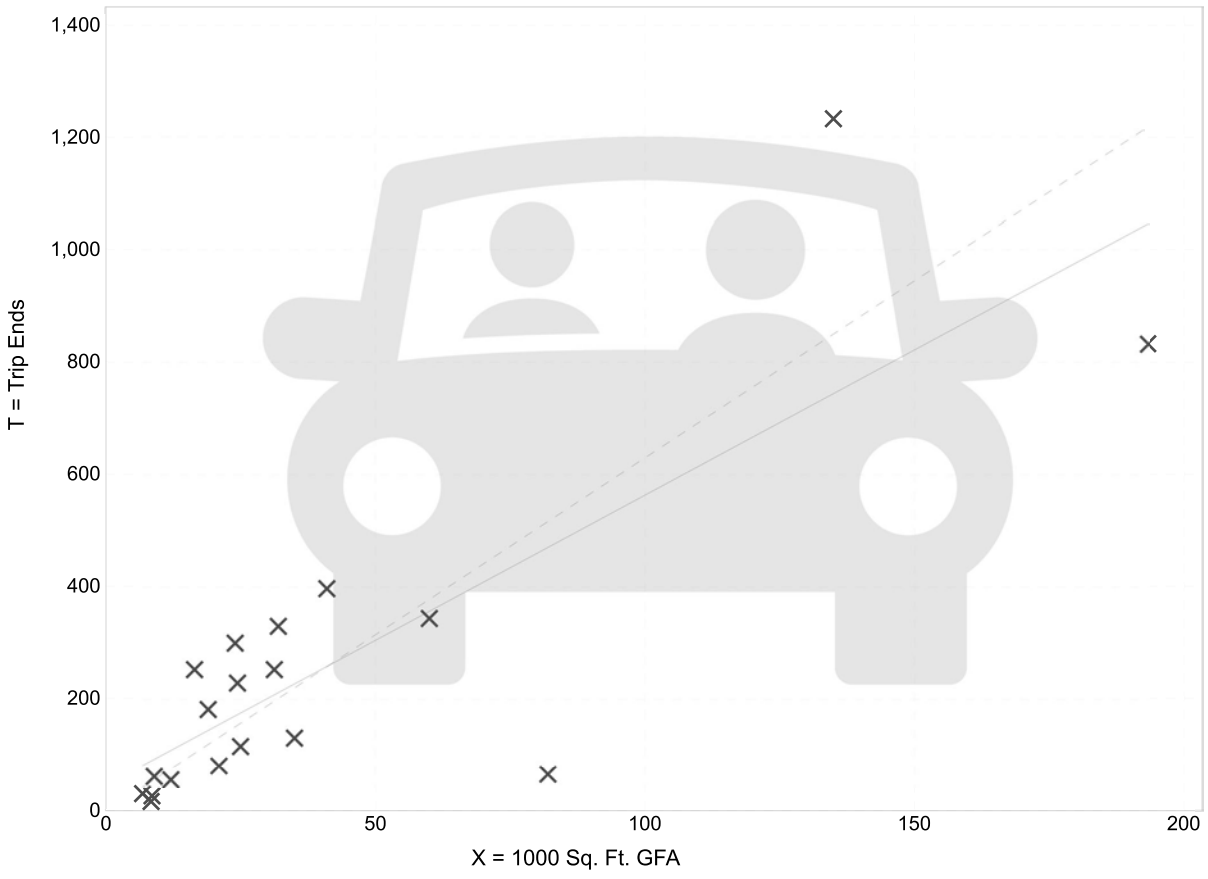
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 19
Avg. 1000 Sq. Ft. GFA: 41
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.30	0.80 - 15.36	3.46

Data Plot and Equation



Fitted Curve Equation: T = 5.17(X) + 46.56

R^2= 0.67

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Furniture Store
(890)

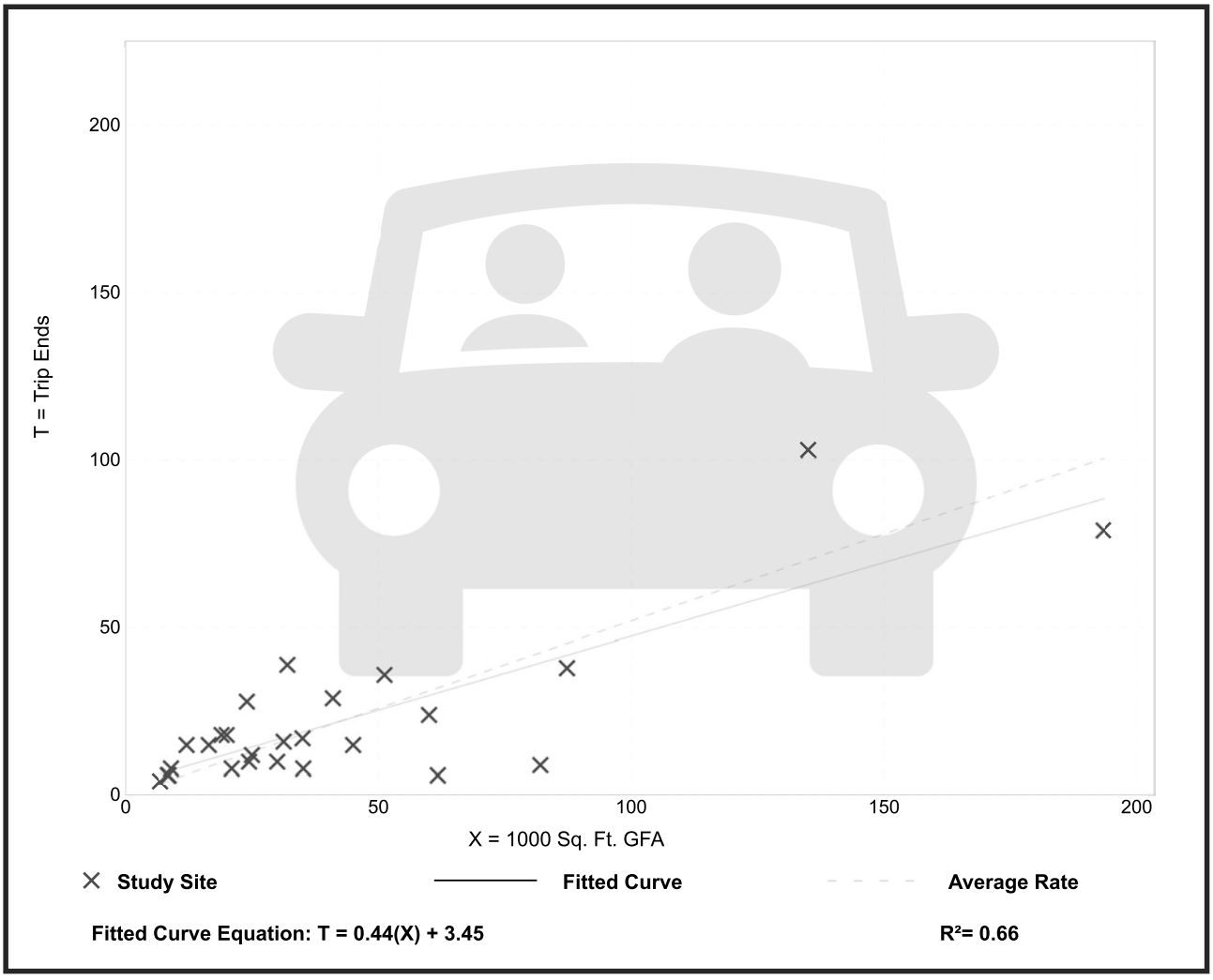
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 26
Avg. 1000 Sq. Ft. GFA: 43
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.52	0.10 - 1.24	0.29

Data Plot and Equation



Furniture Store
(890)

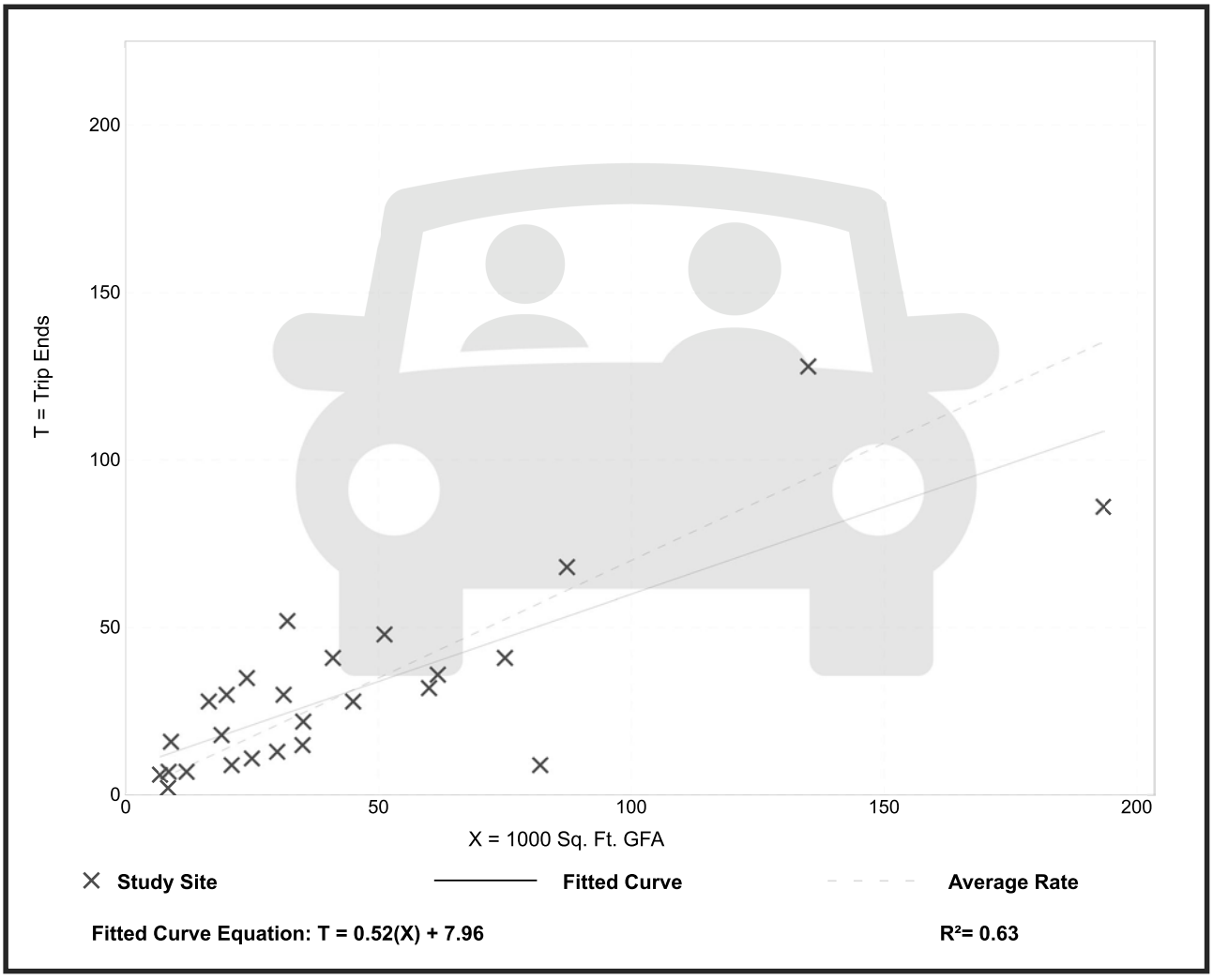
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 26
Avg. 1000 Sq. Ft. GFA: 45
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.70	0.11 - 1.78	0.37

Data Plot and Equation



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Furniture Store
(890)

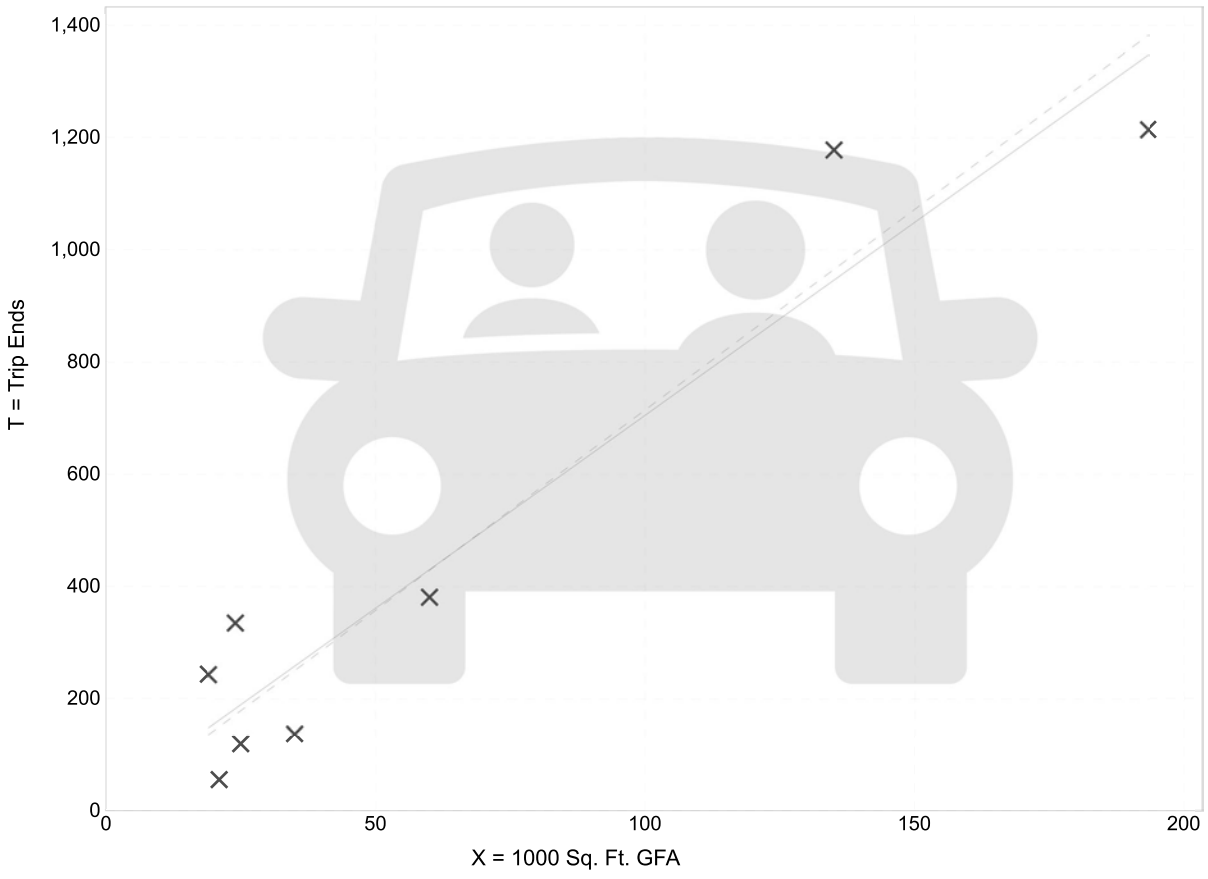
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. 1000 Sq. Ft. GFA: 64
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.15	2.62 - 13.96	2.66

Data Plot and Equation



Fitted Curve Equation: T = 6.88(X) + 17.42

R^2= 0.91

Furniture Store
(890)

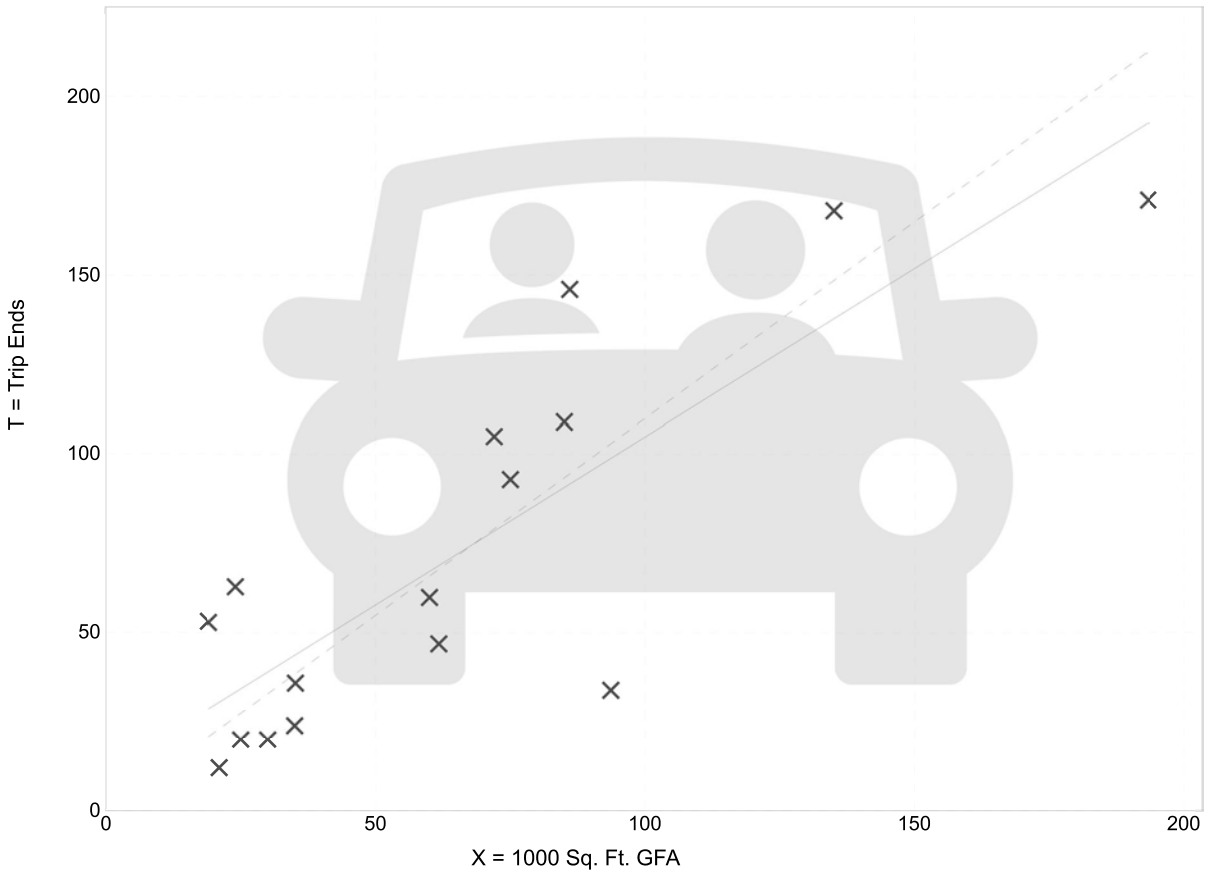
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 66
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.10	0.36 - 2.79	0.50

Data Plot and Equation



Fitted Curve Equation: T = 0.94(X) + 10.90

R^2= 0.69

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